

Survey of Dispensing and Acquisition Costs of Pharmaceuticals in the Commonwealth of Kentucky

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Myers and Stauffer_{LC}

Certified Public Accountants

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Executive Summary

Introduction

Under contract to the Kentucky Department for Medicaid Services, Myers and Stauffer LC performed a study of the cost of dispensing prescription medications to Medicaid recipients in the Commonwealth of Kentucky. Components of this study include:

- Pharmacy dispensing cost survey.
- Estimated acquisition costs study.

The dispensing cost study used a proven cost survey instrument similar to that used by Myers and Stauffer in Medicaid pharmacy engagements in 17 other states. All Kentucky pharmacy providers enrolled in the Medicaid program were surveyed; 377 filed cost surveys that could be included in this analysis. All dispensing cost surveys were subject to extensive desk review procedures. Twenty pharmacies were selected for on-site field examinations to validate reported costs. Survey data was used to calculate the average cost of dispensing at each pharmacy. Results from all pharmacies were tabulated and subjected to statistical analysis as required by KRS 205.561.

Drug acquisition cost comparisons were compiled and analyzed for the top 2,000 drug products (as measured by Medicaid expenditures in calendar year 2002) of the Kentucky Medicaid pharmacy program. All pharmacies participating in the Kentucky Medicaid program were asked to participate in the study by submitting pharmaceutical purchase invoices for one month from calendar year 2002 or 2003. Invoices were received from a sufficient representative sample of Kentucky Medicaid participating pharmacies and analyzed as required by KRS 205.561. Pharmacies which responded included an appropriate mix based upon factors relating to retail versus institutional settings, independent versus chain affiliation and urban versus rural location. The actual acquisition cost data shown on invoices obtained from Kentucky pharmacy providers was compared to the standardized Average Wholesale Price (AWP). Actual acquisition costs were also compared to the Federal Upper Limit (FUL) and the Kentucky State

Maximum Allowable Cost (SMAC) for those multi-source drugs with upper limit pricing.

Summary of Findings

The significant findings of the study are as follows:

Dispensing Cost

- **The statewide average (mean) cost of dispensing, weighted by Medicaid volume, was \$5.86.** This figure excludes 15 specialty pharmacies which exhibited a significantly different cost structure.
- Higher dispensing costs were observed for institutional pharmacies (i.e., pharmacies which dispense a high proportion of prescriptions to residents of long-term care facilities) as compared to more traditional retail pharmacies. These observed differences in dispensing cost at the pharmacies responding to the survey were determined to be statistically significant. This difference in cost appears to be primarily associated with overhead costs for specialized equipment as well as expenses incurred to deliver prescriptions.
- Among retail pharmacies, higher dispensing costs were observed in chain pharmacies, as compared to independent pharmacies. Higher labor cost for employee pharmacists in chain pharmacies was a contributing factor.
- Pharmacies in urban areas of Kentucky were observed to have higher dispensing costs than pharmacies in rural areas.
- Responses to this voluntary survey were slightly biased toward the disproportionate inclusion of institutional and chain retail pharmacies. The observed average dispensing cost for all non-specialty pharmacies was adjusted to yield a composite average dispensing cost based on characteristics of the entire Kentucky Medicaid pharmacy population. This calculation yielded an adjusted average (mean) dispensing cost, weighted by Medicaid volume, of \$5.76.
- This figure of \$5.76 is \$0.52 more than findings from the 2001 study. Significant inflationary pressures continue to operate on pharmacies in Kentucky. Most of the increase in cost on a per prescription basis was associated with increases in labor costs. Anecdotal accounts of increased pharmacist salaries due to a perceived pharmacist “shortage” appear to be confirmed, in part, by the survey data. This phenomenon was especially pronounced for pharmacists employed at chain pharmacies.
- No systematically higher costs associated with pharmacies that have a

higher percentage of Medicaid prescription volume were found.

Table 1.1 Dispensing Cost^A for Kentucky Pharmacies

Pharmacies Included in Analysis ^B	362
Unweighted Average (Mean)	\$6.40
Weighted Average (Mean) ^C	\$5.86
Weighted Median ^C	\$5.72
Adjusted ^D Weighted Average (Mean) ^C	\$5.76

^A Inflated to June 30, 2003.

^B Excludes 15 specialty pharmacies (e.g., those that dispensed a significant amount of intravenous, infusion, inhalation therapy or biotech injectable prescriptions).

^C Weighted by Medicaid volume.

^D Average dispensing cost adjusted to compensate for response rate bias.

Ingredient Acquisition Cost

- For the 133 pharmacies that provided invoices from external wholesalers, typical acquisition costs for single source drugs ranged from 79% to 80% of the AWP. **The average acquisition cost was 79.4%, with a standard deviation of 1.2%.** This measurement is 2.3% *less than* the corresponding measurement observed in the study of pharmaceutical acquisition cost performed by Myers and Stauffer in 2001. It appears that a significant number of pharmaceutical manufacturers have modified their pricing strategies such that the actual acquisition cost of drug products is lower in relation to the AWP.
- Some of the pharmacies in the sample were institutional providers that dispensed prescriptions to patients in long-term care or other institutional settings. Acquisition costs at these pharmacies for single source drug products averaged 76.8% of the AWP, as compared to 79.7% for pharmacies that dispensed prescriptions in traditional retail settings.
- Of the sampled 1,000 single source drugs, 867 drug products were matched to one or more purchases. For these 867 single source products, average acquisition cost was 78.9% of the AWP. The average actual drug acquisition cost is considerably less than the Department's current ingredient cost allowance of AWP minus 12% (88% of the AWP).
- The acquisition costs for multi-source drugs exhibited much greater variation, but averaged 55.3% of the AWP for drugs without FUL prices. For multi-source drugs with FUL prices, the average acquisition cost was 15.2% of the AWP and 40.4% of the FUL. For multi-source drugs with SMAC prices (but not an FUL price), the average acquisition cost was 75.4% of the SMAC.

Conclusions

There are several factors that should be considered in determining an appropriate Medicaid pharmacy reimbursement formula besides dispensing and drug acquisition costs incurred by pharmacies. These factors include market dynamics (i.e., the rates accepted from commercial third-party payers) balanced with the need to maintain sufficient access to services for Medicaid recipients throughout the state.

Findings from this study indicate that the current pharmacy ingredient reimbursement rate of AWP less 12% provides payments in excess of the costs actually incurred by Kentucky pharmacies in acquiring pharmaceutical products for Medicaid recipients.

Historically, much of the attention in setting Medicaid pharmacy reimbursement rates has focused on the dispensing fee component. However, as pharmaceutical prices continue to increase, more and more of the program's budget is consumed by the ingredient portion of drug reimbursement, rather than by dispensing fees. Currently, the average single source Medicaid prescription in Kentucky costs the program approximately \$77 and margins on drug ingredient cost can be more than \$10 per prescription.

With no foreseeable end to the escalation in prices for new drug therapies, this relationship between dispensing fees and the margin on ingredient costs can only become more pronounced. It is recommended that the Department continue to monitor and review its ingredient cost allowance.

Program Overview

Kentucky Medicaid Pharmacy Program Overview

The Kentucky Medicaid program includes a benefit for prescription drugs. This program allows recipients access to many commonly prescribed drugs through its formulary.

The current dispensing fee reimbursed is \$4.51 and ingredient reimbursement is AWP minus 12.0% (with limitations). Medicaid reimbursement is based on the lower of the following prescription charge formulas:

- State Maximum Allowable Cost (SMAC) or Federal Upper Limit (FUL), when applicable for multi-source products, plus a dispensing fee.
- Average Wholesale Price minus 12.0% plus a dispensing fee for single source products and multiple source products with no SMAC or FUL.
- Provider's usual and customary charge to other payers.

Approximately 1,250 pharmacy providers participate in the Kentucky Medicaid drug program. Approximately 42% of the stores are chain-affiliated, and 58% are independently-owned stores. Independent providers are responsible for approximately 54% of the Medicaid volume. Among Kentucky Medicaid providers, the average annual Medicaid volume is approximately 12,000 prescriptions. This average is impacted by a small number of pharmacies filling over 100,000 Medicaid prescriptions per year. The median annual Medicaid volume is much less, roughly 6,500 prescriptions.

Drug Utilization Profile

Myers and Stauffer obtained a claims summary file from the Department for Medicaid Services. This file summarized pharmacy claims processed for calendar year 2002. Information from this file indicates that the Kentucky Medicaid pharmacy program reimbursed¹:

- Approximately 22,000 drug products (by NDC).
- 16.9 million prescriptions.
- \$731.6 million for prescription drug products.

Although approximately 85% of the 22,000 drug products and 60% of the 16.9 million prescriptions were multi-source drug products, these products account for only 28% (\$206 million) of the expenditures. The majority of the program's expenditures, \$526 million, were for single source (i.e., "brand name") drug products. The proportion of drug expenditures that is for single source drugs has increased in recent years as new and more expensive pharmaceutical products continue to become available.

Reimbursement for most multi-source drug products is limited by FUL or SMAC prices. For drugs on the FUL list, the Centers for Medicare and Medicaid Services (CMS) semiannually reviews and updates the FUL drug list. Each FUL equates to 150% of the lowest wholesale price listed in any of the various published compendia of cost information of drugs. SMAC prices are computed similarly by the Department for Medicaid Services and apply to multi-source drugs without an FUL. The following table summarizes the makeup of the program's expenditures by single source and multi-source categories. The table also subdivides drug products based on whether the product has an FUL or a SMAC.

¹ Medicaid recipients in some regions of Kentucky were integrated into managed care programs. Accordingly, these recipients receive pharmaceutical benefits outside of the traditional fee-for-service program.

Table 2.1 Summary of Drug Program Utilization

	Product Type	Number of Drug Products	Percent of Total Number of Drug Products	Number of Prescriptions	Percent of Total Number of Prescriptions	Amount Reimbursed	Percent of Program Expenditures
	Single Source Products	3,355	15%	6.8 Million	40%	\$526 Million	72%
Multi-Source Products	Products with an FUL/SMAC Price	8,220	38%	6.0 Million	35%	\$131 Million	18%
	Products without an FUL/SMAC Price	10,118	47%	4.1 Million	25%	\$75 Million	10%
	Subtotal: Multi-Source Products	18,338	85%	10.1 Million	60%	\$206 Million	28%
	Total: All Products	21,693	100%	16.9 Million	100%	\$732 Million	100%

Note: Existence of FUL/SMAC prices is based upon April 2003 prices. Utilization figures were obtained from the Department for Medicaid Services and are for calendar year 2002.

Dispensing Cost Survey

The two primary components for reimbursement of pharmaceuticals are drug ingredient cost and the dispensing fee. The dispensing, or professional, fee is paid to pharmacies to cover their overhead and labor costs. Federal regulations at 42 CFR 447.331-333 require states to establish a reasonable dispensing fee and to document their pharmacy reimbursement methodology in their state plan. The Kentucky Department for Medicaid Services is required by K.R.S. 205.561 to produce a report every three years with estimates of the costs of dispensing prescription medication to Medicaid eligible recipients. Dispensing fees for Medicaid programs have typically been based on an analysis of costs incurred by pharmacies within the state and tend to vary somewhat from state to state. In order to determine costs incurred to dispense pharmaceuticals to Medicaid recipients in the Commonwealth of Kentucky, Myers and Stauffer utilized a survey method consistent with the methodology of the previous surveys conducted by Myers and Stauffer in 17 states.

Methodology of the Survey**Development of Methodology**

Survey methodologies used by the firm have been developed and refined since the first dispensing cost study engagements in the 1970's. The cost accounting principles used in the study are, however, standard to the health care industry and are similar to methods other experts have used to study pharmacy dispensing cost. Please refer to Appendix A for references to other pharmacy studies and the accounting principles which provide background to the methodologies used in this study.

Survey Population

The Kentucky Department for Medicaid Services provided Myers and Stauffer with a list of pharmacy providers currently enrolled in the Medicaid program. Cost surveys were sent to all pharmacies enrolled in the Medicaid program. Of the 1,257 pharmacies receiving cost surveys, 725 were independent pharmacies and 532 were chain pharmacies.

Mailing Procedures

Survey forms were mailed on June 3, 2003, to all pharmacy providers currently enrolled in the Medicaid program. Each pharmacy received a copy of the cost survey (Exhibit 1), a list of instructions (Exhibit 2), a letter of introduction from the Commonwealth of Kentucky (Exhibit 3), a letter of explanation from Myers and Stauffer (Exhibits 4 and 5), and a business reply envelope.

Survey Participation

Of the 1,257 surveyed pharmacies, 58 pharmacies were determined to be ineligible to participate. Providers were deemed ineligible if they had closed their pharmacy, had a change of ownership, or had less than six months of cost data available.

Concerted efforts to encourage maximum participation were made by various parties concerned with the success of the survey. An official letter explaining the purpose of the study was sent to the sampled pharmacy providers by the Kentucky Department for Medicaid Services. The cost survey forms and instructions and a letter of explanation from Myers and Stauffer offered pharmacy owners the option of having Myers and Stauffer complete certain sections of the survey form if copies of financial statements and/or tax returns were supplied. A toll-free telephone number was listed on the survey form, and pharmacists were urged to call to resolve any questions they had concerning completion of the survey form. A letter reminding pharmacies to participate in the survey was sent on June 27, 2003 (Exhibit 6).

By the original filing deadline of July 15, 2003, 126 cost surveys had been received. In an effort to increase the response rate, surveys were accepted after the due date and staff from Myers and Stauffer made phone calls to non-responding pharmacies. Additionally, Myers and Stauffer sent another letter to non-responding pharmacies encouraging them to participate in the survey (Exhibit 7).

As is typical with these projects, some of the submitted cost surveys contained errors or were incomplete. For cost surveys with such errors or omissions, the pharmacy was contacted for clarification. There were some cases in which issues on the cost survey were not resolved in time for inclusion in the final analysis. Ultimately, 377 surveys were entered into a database and used in the analysis of dispensing costs.

The following table, 3.1, summarizes the cost survey response rate.

Table 3.1 Pharmacies Responding to Cost Survey

Type of Pharmacy	Total Medicaid Participating Pharmacies	Pharmacies Receiving Cost Surveys	Pharmacies Exempt from Filing	Eligible Pharmacies	Usable Cost Surveys Received	Response Rate
Chain	532	532	6	526	196	37.2%
Independent	725	725	52	673	181	26.9%
TOTAL	1,257	1,257	58	1,199	377	31.4%

Reporting Bias

Of these 377 cost surveys, 181 were from independent pharmacies and 196, or 52%, were from chain pharmacies. The slight over representation of chain pharmacies (compared to 42% of eligible Medicaid providers) was due to several reasons. First, the decision of a chain organization to file typically meant filing for all, or at least the majority, of its pharmacies participating in the Kentucky Medicaid program. There were three major pharmacy chains in Kentucky that filed usable cost surveys, but these three chain organizations collectively supplied 172 usable surveys. The decision for an independent pharmacy to file, however, typically only affected one, or on some occasions, two or three stores. Chain organizations typically have corporate accounting offices or third party program managers in place to handle tasks such as completing cost surveys. Owners of independent pharmacies, however, are often involved in many facets of their business operation, and consequently are in some cases less likely to have the time or resources available to complete a cost survey. Another minor reason for a greater number of chain pharmacy surveys being available was an increased difficulty of contacting independent pharmacists to resolve any issues involved with their cost report. Chain pharmacies, alternatively, could be contacted through their corporate offices where, again, mechanisms were in place to deal with the inquiries.

Since the response rate of the sample pharmacies was less than 100 percent, the possibility of bias in the responding sample should be considered. To measure the likelihood of this possible bias, a chi square (χ^2) test was performed. This test was used to determine whether the final sample was independent with respect to chains versus independents.

The results of the χ^2 test indicate that the final sample of 377 cost reports was biased toward a disproportionately large number of chain providers. As there is some bias in the final sample, further analysis must be performed to determine whether there is a significant difference in costs of these two provider categories. This issue is further addressed in the "Analysis and Findings" section of this chapter.

Receipt and Review Procedures

For confidentiality purposes, each pharmacy was randomly assigned a four-digit identification number and each cost survey was carefully examined. This review identified incomplete cost surveys, and pharmacies submitting these cost surveys were sent a "Request for Additional Information" letter specifying the information necessary for completion (Exhibit 8) or were contacted by telephone.

Field Examination Procedures

A total of 20 pharmacies were selected for a field examination. The selection was primarily random, but geographic location was taken into consideration. A letter was sent to each selected pharmacy explaining the selection process, the time period during which the field examination would take place, and the necessary data to have available. Each pharmacy was then contacted by telephone for further explanation of the field examination and confirmation of the time and date. An examination file was prepared for each of the pharmacies containing a uniform field examination program, a copy of the completed reviewed cost survey, and other necessary work papers.

Following the actual visit to the pharmacy, work papers were completed by making a second examination of each file to ensure that all necessary information had been obtained. A follow-up letter was sent to each pharmacy visited, expressing appreciation for the time and cooperation of pharmacy personnel. Each work paper file was reviewed for quality assurance. Results of the field examinations showed no significant bias in overstating or understating costs reported on the cost survey (Exhibit 9).

Cost Finding Procedures

For all pharmacies, the basic rationale used to calculate the average dispensing cost per prescription was to calculate the total dispensing-related cost and divide it by the total number of prescriptions dispensed:

$$\text{Average Dispensing Cost} = \frac{\text{Total (Allowable) Dispensing Related Cost}}{\text{Total Number of Prescriptions Dispensed}}$$

Determining the result of this simple equation becomes more complex due to the challenge of determining the amount of cost that is strictly related to the prescription dispensing function of the pharmacy. Most pharmacies are also engaged in lines of business other than the dispensing of prescription drugs. For example, many pharmacies have a retail business with sales of over-the-counter (OTC) drugs and other non-medical items. Some pharmacies are involved in the sale of durable medical equipment. The existence of these other lines of business

necessitates that procedures be taken to isolate the costs involved in the prescription dispensing function of the pharmacy.

Cost finding is the process of recasting cost data using rules or formulas in order to accomplish an objective. In this study, the objective is to estimate the cost of dispensing prescriptions to Medicaid recipients. To accomplish this objective, some pharmacy costs must be allocated between the prescription dispensing function and other business activities. This process identified the reasonable and allowable costs necessary for prescription dispensing to Medicaid recipients.

Dispensing cost consists of two components: overhead and labor. The cost finding rules employed to determine each of these components are described in the following sections.

Overhead Costs

Overhead cost per prescription was calculated by summing the allocated overhead of each pharmacy and dividing this sum by the number of prescriptions dispensed. Overhead expenses originally reported for the entire pharmacy were allocated to the prescription department based on either:

- Sales ratio (prescription sales divided by total sales)
- Area ratio (prescription department floor space (in square feet) divided by total floor space)
- All (100%)
- None

Overhead costs that were considered *entirely prescription-related* include:

- Prescription department fees
- Prescription delivery expense
- Prescription computer expense
- Prescription containers and labels (For many pharmacies the costs associated with prescription containers is captured in their cost of goods. Subsequently, it was often the case that a pharmacy was unable to report expenses for prescription containers. In order to maintain consistency, a standardized allowance for prescription containers was determined after consultation with several pharmacists. See Exhibit 10.)
- Certain other expenses that were separately identified on lines 27-29² (see the cost survey in Exhibit 1)

² Expenses that were considered entirely prescription-related were transferred to Line 28. One example is continuing professional education for a pharmacist.

Overhead costs that were *not allocated as a prescription expense* include:

- Income taxes³
- Bad debts⁴
- Advertising
- Charitable Contributions⁵

Certain costs reported on Lines 27, 28, and 29 were occasionally excluded. An example is freight expense, which usually relates only to nonprescription purchases or cost of goods sold.

The remainder of the costs was assumed to be related to *both prescription and nonprescription sales*. Joint cost allocation is necessary to avoid understating or overstating the cost of filling a prescription.

Those overhead costs allocated on the ratio of the *floor space* (as previously defined) include:

- Depreciation
- Real estate taxes
- Rent
- Repairs
- Utilities

The costs in these categories were considered a function of floor space. For example, the larger the facility, the higher the rent, if other factors are considered equal. The floor space ratio was increased by 50 percent from that reported on the original cost survey to allow for waiting area for patients and prescription department office area. The resulting ratio was adjusted downward, when necessary, not to exceed the sales ratio (in order to avoid allocating 100% of these costs in the rare instance where the prescription department occupies the majority of the area of the store).

³ Income taxes are not considered an operational cost because they are based upon the profit of the pharmacy operation. Although a separate line was provided for the state income taxes of corporate filers, it was not allowed as a prescription cost in order to afford equal treatment to each pharmacy, regardless of the type of ownership.

⁴ Bad debts were not considered a prescription-related expense since they are revenue offsets arising through an accrual recognition of revenues which are later found to be not collectible. Disallowing this expense also afforded equal treatment to providers, irrespective of their method of accounting.

⁵ Individual proprietors and partners are not allowed to deduct charitable contributions as a business expense for federal income tax purposes. Any contributions made by their business are deducted along with personal contributions as itemized deductions. However, corporations are allowed to deduct contributions as a business expense for federal income tax purposes. Thus, while Line 19 on the cost report recorded the business contributions of a corporation, none of these costs were allocated as a prescription expense. This, again, afforded equal treatment for each type of ownership.

Overhead costs allocated using the *sales ratio* include:

- Personal property taxes
- Other taxes
- Insurance
- Interest
- Accounting and legal fees
- Telephone and supplies
- Dues and publications

Labor Costs

Labor costs are calculated by allocating total salaries, payroll taxes, and benefits based on the percent of time spent in the prescription department. The allocations for each labor category were summed and then divided by the number of prescriptions dispensed to calculate labor cost per prescription. There are various classifications of salaries and wages requested on the cost survey (Lines 31-44) due to the different cost treatment given to each labor classification.

The total salaries, payroll taxes, and benefits of employee pharmacists (Lines 34-38) were multiplied by a factor based upon the percent of prescription time. Although some employee pharmacists spent a portion of their time performing nonprescription duties, it was assumed that their economic productivity when performing nonprescription functions was less than their productivity when

performing prescription duties. Therefore, a higher percentage of salaries, payroll taxes, and benefits was allocated to prescription labor costs than would have been allocated if a simple percent of time allocation was utilized. Specifically, the percent of prescription time indicated was multiplied by two and divided by the percent of prescription time plus one.

The allocation of salaries, payroll taxes, and benefits for all other prescription employees (Lines 39-43) was based directly upon the percentage of time spent in the prescription department as indicated on the individual cost survey. For example, if the reported percentage of prescription time was 75 percent and total salaries were \$10,000, then the allocated prescription cost would be \$7,500.

Example:

An employee pharmacist spends 90 percent of his/her time in the prescription department. The 90 percent factor would be modified to 95 percent:

$$\frac{(2)(.9)}{(1 + .9)}$$

Thus, 95 percent of the reported salaries, payroll taxes, and benefits would be allocated to the prescription department. It should be noted that most employee pharmacists spent 100 percent of their time in the prescription department.

Owner Compensation Issues

The allocation of salaries, payroll taxes, and benefits of the owner pharmacists (Lines 31-33) was based upon the same modified percentage as that used for employee pharmacists. However, limitations were placed upon the allocated salaries, payroll taxes, and benefits of owner pharmacists. Since amounts shown for owner pharmacists are not historical costs that have arisen from arm's length negotiations, they are not similar to other costs. A pharmacy owner has a different attitude toward other expenses than toward his/her own salary. In fact, owners often pay themselves above the market costs of securing the services of an employee pharmacist. This excess effectively represents a withdrawal of business profits, not a cost of dispensing. Some owners may underpay themselves for business reasons, which would also misrepresent the true dispensing cost.

A factor considered in determining the allocation of owner's salaries was the variability in productivity. For example, one owner pharmacist may dispense 30,000 prescriptions per year while another may dispense 5,000. Those owner pharmacists who dispensed a greater number of prescriptions were allowed a higher salary than were owner pharmacists who dispensed a smaller number of prescriptions. Since variance is not nearly as great with respect to employee pharmacists, the owner pharmacist's salary was subjected to limits based upon employee pharmacists' salaries per prescription.

Determining Owner Compensation Allowances

To estimate the cost that would have been incurred had an employee been hired to perform the prescription-related functions actually performed by the owner, a statistical regression technique was used. A bivariate plot shows the correlation between an independent (predictor) variable and a dependent (predicted) variable. The upper and lower limits on owner pharmacist salary were determined from a bivariate regression (Chart 3.1)⁶. In order to accurately reflect the trend of decreasing marginal costs with increasing volume, a regression technique that fit the bivariate data to a logarithmic curve was used. The resulting regression equation to predict pharmacist labor cost at varying amounts of work performed is:

$$\text{Labor cost} = 31,041 \times \ln(\text{number of prescriptions dispensed}^7) - 244,584$$

(where \ln represents the natural logarithm function)

⁶ Employee pharmacist salary per prescription was used to set limitations on owner pharmacist salary estimates due to the "arm's length" nature and lack of variance in employee productivity compared with owner productivity.

⁷ The number of prescriptions filled by the owner pharmacist was determined by multiplying the percent of owner-filled prescriptions (Lines 31-33 of the cost report) by the total number of prescriptions dispensed (Line a).

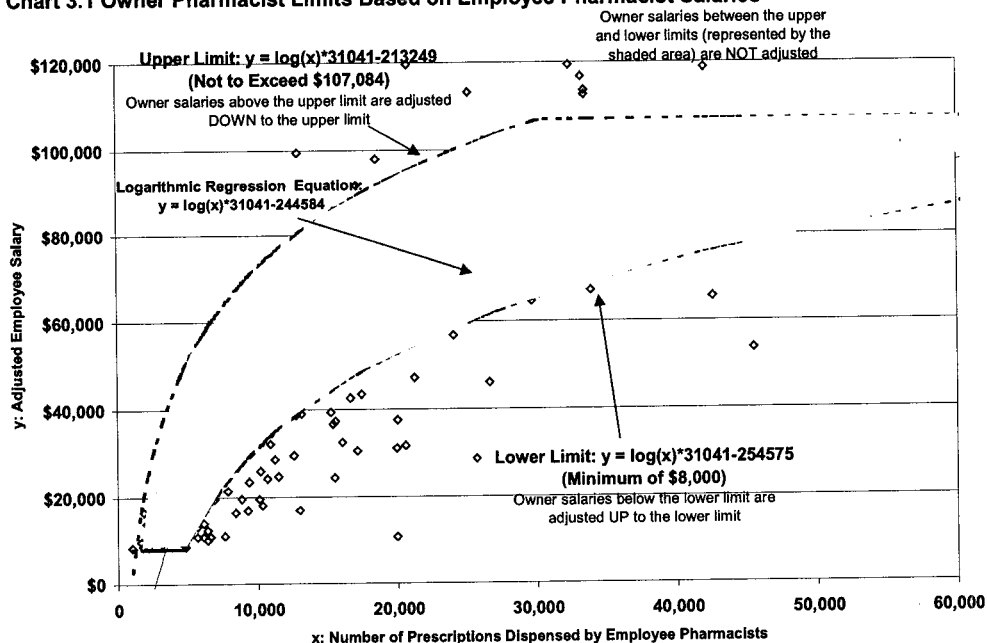
This equation was used to establish limits for allocating owner pharmacist costs. There was variation in actual employee salaries both above and below this regression line. This variation is measured by the equation's *standard error of the estimate*, \$17,545. The standard error of the estimate was used to construct upper and lower limits of owner pharmacist labor cost:

$$\text{Upper Limit} = 31,041 \times \ln(\text{number of prescriptions dispensed}) - 213,249$$

$$\text{Lower Limit} = 31,041 \times \ln(\text{number of prescriptions dispensed}) - 254,575$$

These two constraints effectively set upper and lower thresholds at approximately the 30th and 95th percentiles of volume adjusted employee salaries. An additional constraint is a \$107,084 maximum annual salary and an \$8,000 minimum salary. These amounts are set at the 30th and 95th percentile of volume adjusted employee salaries.

Chart 3.1 Owner Pharmacist Limits Based on Employee Pharmacist Salaries



There is no reason to believe that managerial or clerical duties performed by the nonpharmacist owners were more valuable to the prescription dispensing function than for other functions. As with other owners, the amount shown for salaries, payroll taxes, and benefits was not a result of arm's length negotiations. Therefore, an upper limit of \$30,000 and a lower limit of \$15,000 were placed upon these prescription costs. These limits were chosen based on experience in prior surveys. No adjustment was made to the percentage of prescription time factor for owner nonpharmacists (Lines 31-33).

A sensitivity analysis of the owner pharmacist labor limits was performed in order to determine the impact of the limits on the overall analysis of pharmacy cost. Of the 377 pharmacies in the cost analysis, owner pharmacist limits applied to 121 pharmacies, or 32%. Of these, 77 pharmacies had costs reduced as a result of application of these limits (on the basis that a portion of owner salary "cost" appeared to represent a withdrawal of profits from the business) , and 44 pharmacies had costs increased as a result of the limits (on the basis that owner salaries were below their market value). In total, the final estimate of average pharmacy dispensing cost per prescription was decreased by approximately \$0.22 as a result of the owner pharmacist salary limits.

Overall Labor Cost Constraints

An overall constraint was placed on the proportion of total reported labor that could be allocated as prescription labor. The constraint assumes that a functional relationship exists between the proportion of allocated prescription labor to total labor **and** the proportion of prescription sales to total sales. It is also assumed that a higher input of labor costs is necessary to generate prescription sales than nonprescription sales, within limits.

The parameters of the applied labor constraint are based upon an examination of data submitted by all pharmacies. These parameters are set in such a way that any resulting adjustment affects only those pharmacies with a percentage of prescription labor deemed unreasonable. For instance, the constraint would come into play for an operation that reported 75 percent pharmacy sales and 100 percent pharmacy labor (obviously, some labor must be devoted to generating the 25 percent nonprescription sales).

To determine the maximum percentage of total labor allowed, the following calculation was made:

$$\frac{0.3(\text{Sales Ratio})}{0.1 + (0.2)(\text{Sales Ratio})}$$

A sensitivity analysis of the labor cost restraint was performed in order to determine the impact of the limit on the overall analysis of pharmacy cost. The analysis indicates that of the 377 pharmacies included in the dispensing cost analysis, this limit was applied to 23 pharmacies. The final estimate of average pharmacy dispensing cost per prescription was decreased by approximately \$0.01 as a result of this limit.

Inflation Factors

All allocated costs for overhead and labor were totaled and multiplied by an inflation factor. Inflation factors are intended to reflect cost changes from the middle of the reporting period of a particular pharmacy to a common fiscal period ending December 31, 2003 (specifically from the *midpoint* of the pharmacy's fiscal year to the *midpoint* of the common fiscal period, June 30, 2003). The midpoint and terminal month indices used were taken from the U. S. Government Consumer Price Index (CPI), Urban Consumer (see Exhibit 11). The use of inflation factors is necessary in order for pharmacy cost data from various fiscal years to be compared uniformly.

Analysis and Findings

The dispensing costs for all pharmacies in the sample are summarized in the following tables and paragraphs. Findings for all pharmacies in the sample are presented collectively, and additionally are presented for subsets of the sample based on pharmacy characteristics. There are several statistical measurements that may be used to express the central tendency of a distribution, the most common of which are the average, or mean, and the median (see sidebar). Findings are presented in the forms of means and medians, both raw and weighted.

In many real world settings such as this dispensing cost survey, statistical “outliers” are a common occurrence. These outlier pharmacies have dispensing costs that are not typical of the majority of pharmacies.

Medians are sometimes preferred to averages (i.e., the arithmetic mean) in situations where the magnitude of outlier values results in an average that does not represent what is thought of as “average” or normal in the common sense.

For all pharmacies in the sample, findings are presented in Table 3.2.

Different Measures of Central Tendency:

Unweighted mean: the arithmetic average cost for all pharmacies.

Weighted mean: the average cost of all prescriptions dispensed by pharmacies included in the sample, weighted by prescription volume. The resulting number is the average cost for all prescriptions, rather than the average for all pharmacies as in the unweighted mean. This implies that low volume pharmacies have a smaller impact on the weighted average than high volume pharmacies. This approach, in effect, sums all costs in the sample and divides that sum by the total of all prescriptions in the sample. The weighting factor can be either total prescription volume or Medicaid prescription volume.

Median: the value that divides a set of observations (such as dispensing cost) in half. In the case of this survey, the median is the dispensing cost such that the cost of one half of the pharmacies in the set are less than or equal to the median and the dispensing costs of the other half are greater than or equal to the median.

Weighted Median: This is determined by finding the pharmacy observation that encompasses the middle value prescription. The implication is that one half of the prescriptions were dispensed at a cost of the weighted median or less, and one half were dispensed at the cost of the weighted median or more.

Suppose, for example, that there were 1,000,000 Medicaid prescriptions dispensed by the pharmacies in the sample. If the pharmacies were arrayed in order of dispensing cost, the median weighted by Medicaid volume, is the dispensing cost of the pharmacy that dispensed the middle, or 500,000th prescription.

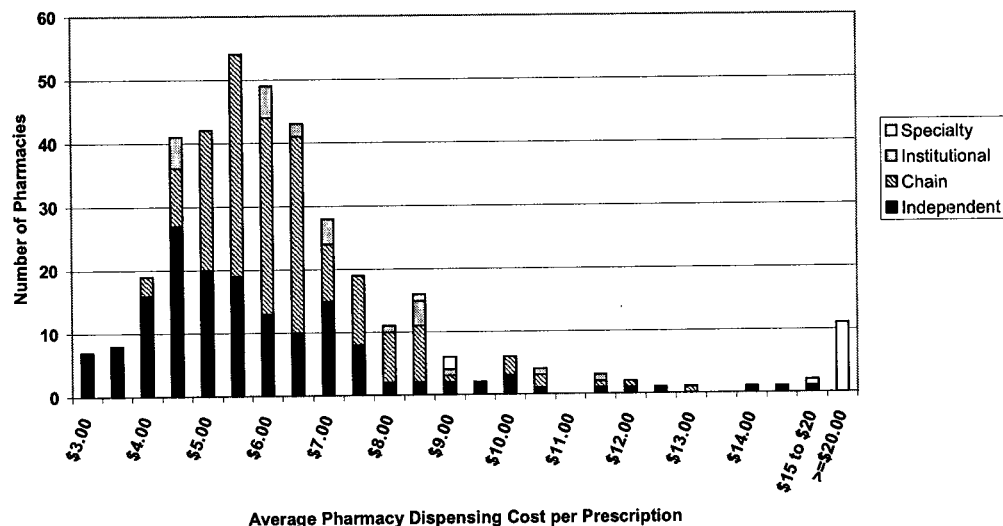
Table 3.2 Cost Per Prescription – All Pharmacies

	Dispensing Cost
Unweighted Average (Mean)	\$8.13
Average (Mean) Weighted by Medicaid Volume	\$6.05
Unweighted Median	\$6.15
Median Weighted by Medicaid Volume	\$5.75

(Dispensing Costs have been inflated to the common point of June 30, 2003)

Chart 3.2 is a histogram of the dispensing cost for all pharmacies in the sample. There was a large range between the highest, \$122.75, and lowest, \$3.02, dispensing cost observed for pharmacies in the sample. The majority of pharmacies (68%), however, had dispensing costs between \$4.50 and \$7.50.

Chart 3.2 Dispensing Cost by Pharmacy



Several pharmacies included in the cost analysis were identified as specialty pharmacies that dispensed a significant proportion of “non-traditional” prescriptions. The most common characteristic of these specialty pharmacies was the dispensing of intravenous (I.V.) solutions and infusion products, however other specialties included the provision of inhalation therapy drugs, and special biotech injectable preparations. These characteristics, especially the provision of intravenous and infusion products had a significant impact on pharmacy dispensing cost. The analysis revealed significantly higher cost of dispensing associated with the 15 pharmacies in the sample that provided significant levels of these services.

In every pharmacy dispensing study where information on I.V. solution and infusion product dispensing activity has been collected by Myers and Stauffer, such activity has been found to be associated with higher dispensing costs. Discussions with pharmacists providing these services indicate that the activities and costs involved in filling I.V. and infusion prescriptions are significantly different from the costs incurred by the typical retail (or institutional) pharmacy. The reasons for this difference include:

- Costs of special equipment for mixing and storage of I.V. solutions and infusion products.
- Higher direct labor costs because most I.V. prescriptions must be mixed in the pharmacy, whereas the manual activities to fill a non-I.V. prescription are mainly limited to counting pills (or vials, etc.) and printing and affixing the label.
- A pharmacy may mix and deliver many “dispensings” of a daily I.V. or infusion solution from a single prescription, thus incurring additional costs spread over a smaller number of prescriptions.

This latter factor, in particular, can have a dramatic impact on increasing a pharmacy’s apparent cost per prescription.

The difference in dispensing costs that were observed for providers of specialty services compared to those pharmacies that did not offer these specialty services is summarized in Table 3.3.

Table 3.3 Cost Per Prescription - Specialty Versus Other Pharmacies

Type of Pharmacy	Number of Pharmacies	Unweighted Average (Mean) Cost	Standard Deviation
Specialty Pharmacies (e.g., I.V. or infusion)	15	\$49.81	\$33.85
Other Pharmacies	362	\$6.40	\$1.88

(Dispensing costs have been inflated to the common point of June 30, 2003)

Pharmacies that dispense specialty prescriptions as a significant part of their business can have dispensing costs far in excess of those found in a traditional pharmacy. Based on the cost findings, it must be concluded that the costs incurred to dispense specialty prescriptions are not representative of the costs incurred by a traditional pharmacy. If the costs of specialty services were to be included in the computation of an average or median dispensing cost that was then used to establish a reimbursement rate, the effect would be to pay approximately 95% of pharmacies an additional allowance for a service they never provided. And, for those pharmacies providing specialty services, the

marginal increase in the fee would be immaterial in relation to the cost of actually dispensing a specialty prescription.⁸

Consequently, many of the analyses that follow exclude the specialty pharmacy providers. In making this exclusion, no representation is made that the cost structure of those pharmacies is not important to understand. However, it is reasonable to address issues relevant to those pharmacies in isolation from the analysis of the cost structure of the vast majority of Kentucky Medicaid pharmacy providers that provide “traditional” pharmacy services. Additional comments regarding pharmacies that dispense I.V. and infusion prescriptions is included later in this chapter.

Table 3.4 restates the measurements noted in Table 3.2 excluding pharmacies that dispensed significant volumes of specialty prescriptions.

Table 3.4 Cost Per Prescription – Excluding Specialty Pharmacies

	Dispensing Cost
Unweighted Average (Mean)	\$6.40
Average (Mean) Weighted by Medicaid Volume	\$5.86
Unweighted Median	\$6.04
Median Weighted by Medicaid Volume	\$5.72

(Dispensing costs have been inflated to the common point of June 30, 2003)

Analysis of Pharmacy Characteristics

Responding pharmacies were categorized into various groups of interest and their dispensing costs analyzed to determine statistical significance. These characteristics include:

- Total prescription volume
- Provision of prescription drugs to residents of long-term care facilities
- Chain versus independent pharmacy affiliation
- Urban versus rural pharmacy location
- Type of pharmacy ownership
- Total Medicaid volume
- Medicaid volume as a percent of total volume
- Provision of unit dose dispensing services

⁸ Although typical dispensing fees reimburse less than the dispensing costs of I.V. and infusion pharmacies, they are generally able to cover dispensing costs in the margin allowed on ingredient cost reimbursement.

One way to determine the statistical significance of differences in dispensing cost between the pharmacies classified by the above referenced characteristics is through the use of a *t*-test. The sample data may show that a certain group of pharmacies has a sample mean lower or higher than another group. Recognizing that the data only represents a sample, a *t*-test is a statistical technique that seeks to determine if the findings are strong enough that a similar relationship can be expected to exist for the entire population. The *t*-test takes into consideration the sample's size, mean, and underlying variance (as measured by the standard deviation). Although the preference of using a weighted median as a measurement of central tendency was previously explained, a *t*-test requires the comparison of the *unweighted average (mean)* costs.

Exhibit 12 provides additional statistical measures including the standard error of the mean and confidence intervals. Confidence intervals given in Exhibit 12 were calculated using appropriate statistics from the *t* distribution at the 95% confidence level. These intervals are a range estimate for the population mean, and are based upon the sample mean, standard deviation, and sample size. A 95% confidence interval identifies the range which one would expect the mean from *any* sample to fall 95% of the time. It can be inferred that there is a 95% probability that the population mean lies within the range of the confidence interval.

All costs referred to in these analyses have been inflation adjusted to the common point of June 30, 2003.

1) Total Prescription Volume

Pharmacies were classified into meaningful groups based upon their differences in total prescription volume. Dispensing costs were then analyzed based upon these volume classifications.

Table 3.5 Pharmacy Total Annual Prescription Volume

Total Annual Prescription Volume of Pharmacy	Number of Stores	Unweighted Average (Mean) Cost	Standard Deviation of Cost
0 to 49,999	133	\$7.53	\$2.29
50,000 to 99,999	152	\$5.92	\$1.24
100,000 and Higher	77	\$5.42	\$1.00

There is a significant correlation between a pharmacy's total prescription volume and the dispensing cost per prescription. For all categories noted above, differences in the average (mean) dispensing cost were statistically significant (at the 5% level of significance). This result is not surprising because many of the costs associated with any business, included the dispensing of prescriptions, are fixed in nature, and do not vary significantly with increased volume. For stores

with a higher total prescription volume, these fixed costs are spread over a greater number of prescriptions resulting in lower costs per prescription. (A more detailed analysis of cost variations attributable to total prescription volume using statistical regression techniques is presented later in the report.)

2) Retail Versus Institutional Pharmacies

Pharmacies were classified by whether or not they provided a significant number of prescriptions to residents of long-term care facilities (based on analysis of Medicaid claims history and self-reported measurements on the dispensing cost survey).

Table 3.6 Retail Versus Institutional Pharmacies

Type of Pharmacy	Number of Stores	Unweighted Average (Mean) Cost	Standard Deviation of Cost	Average Annual Total Prescription Volume
Retail	338	\$6.35	\$1.87	68,320
Institutional	24	\$7.18	\$1.94	199,552

The difference in the unweighted sample averages (means) observed here was found to be statistically significant. Institutional pharmacies displayed higher dispensing costs despite the efficiencies associated with having higher total prescription volume. In particular, higher costs associated with specialized equipment and prescription delivery services contributed to the overall higher cost of dispensing. Additional comments regarding institutional pharmacies are included later in this chapter.

3) Chain Versus Independent Pharmacy Affiliation (Retail only)

Of the 338 non-specialty retail pharmacies, 161 were independent pharmacies and 177 were chain pharmacies.

Table 3.7 Chain Versus Independent Pharmacies (Retail Only)

Type of Pharmacy	Number of Stores	Unweighted Average (Mean) Cost	Standard Deviation of Cost	Average Annual Total Prescription Volume
Independent	161	\$6.07	\$2.18	60,983
Chain	177	\$6.61	\$1.49	74,995

The use of a *t*-test indicates that the difference in the unweighted averages (means) is statistically significant (at the 5% level of significance). Despite the higher average total prescription volume in chain pharmacies, their dispensing costs were higher than that observed in independent pharmacies. Higher labor costs for employee pharmacists were a major contributing factor to this phenomenon.

4) Urban Versus Rural Pharmacy Location

Myers and Stauffer used the zip code of each pharmacy to determine if it was located in a Metropolitan Statistical Area (MSA) as used by CMS. Those in an MSA were considered to be urban, and those not in an MSA were considered rural. Pharmacies which were located outside of the commonwealth of Kentucky were excluded from this analysis.

Table 3.8 Urban Versus Rural Pharmacy Location

Location of Pharmacy	Number of Stores	Unweighted Average (Mean) Cost	Standard Deviation of Cost	Average Annual Total Prescription Volume
Urban	133	\$6.70	\$1.93	88,386
Rural	214	\$6.17	\$1.73	64,764

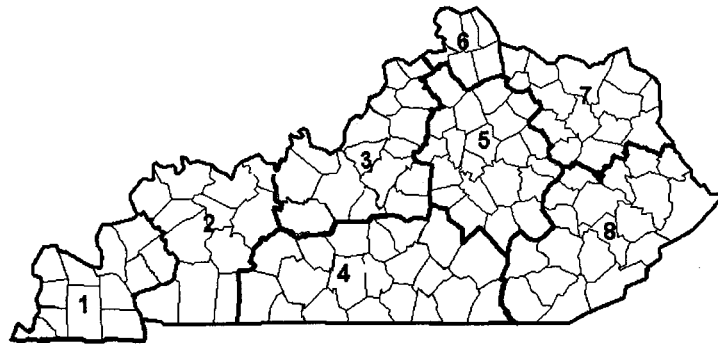
The use of a *t*-test indicates that the difference in the unweighted averages (means) is statistically significant (at the 5% level of significance).

As an additional analysis of pharmacy dispensing cost by location, pharmacies were grouped by Medicaid regions (see Table 3.9 and Chart 3.3).

Table 3.9 Dispensing Costs by Medicaid Region

Location of Pharmacy (Medicaid Region)	Number of Stores	Unweighted Average (Mean) Cost	Standard Deviation of Cost	Average Annual Total Prescription Volume
Region 1	17	\$6.09	\$0.98	64,629
Region 2	46	\$6.45	\$1.81	68,963
Region 3	80	\$6.66	\$2.03	83,882
Region 4	46	\$6.57	\$2.43	60,462
Region 5	70	\$6.39	\$1.57	79,314
Region 6	12	\$6.92	\$2.01	67,871
Region 7	24	\$6.08	\$1.62	71,303
Region 8	52	\$5.77	\$1.35	72,585

Chart 3.3 Kentucky Medicaid Regions



Several of the differences observed in the regional breakdown of dispensing cost were statistically significant (at the 5% level of significance). Of particular note were the higher costs in regions 3 and 6 and lower costs in region 8. The regional analysis of cost variation appears to confirm the previously noted phenomenon of higher dispensing costs in the urban areas of Kentucky as compared to the rural areas. It is also noted that there is some variation in the average total prescription volume between the various regions.

5) Type of Pharmacy Ownership

Pharmacies reported their ownership as being one of the following:

- Sole proprietor
- Partnership
- Corporation

Table 3.10 Pharmacy Ownership

Ownership Structure of Pharmacy	Number of Stores	Unweighted Average (Mean) Cost	Standard Deviation of Cost	Average Annual Total Prescription Volume
Sole Proprietor	26	\$7.12	\$3.53	37,915
Partnership	10	\$5.57	\$1.32	143,943
Corporation	317	\$6.37	\$1.67	77,179

The majority, about 88%, of pharmacies had a corporate business structure. The dispensing costs of pharmacies owned as sole proprietorships was significantly higher than other types of pharmacies, however it is also noted that these pharmacies also tended to have lower total prescription volumes.

6) Total Medicaid Volume

Pharmacies were also classified based upon their Medicaid volume. Medicaid volume was supplied to Myers and Stauffer by the Department for Medicaid Services.

Table 3.11 Pharmacy Annual Medicaid Prescription Volume

Annual Medicaid Prescription Volume of Pharmacy	Number of Stores	Unweighted Average (Mean) Cost	Standard Deviation of Cost	Average Annual Total Prescription Volume
0 to 4,999	114	\$7.41	\$2.22	50,614
5,000 to 14,999	145	\$6.24	\$1.55	66,179
15,000 and Higher	103	\$5.53	\$1.33	121,511

For the classifications shown, some differences in the average (mean) dispensing cost were found to be statistically significant (at the 5% level of significance). It should be noted, however, that there is a correlation between Medicaid volume and total prescription volume. The relationship noted with regard to Medicaid volume, is a function of total prescription volume rather than Medicaid volume alone.

7) Medicaid Volume as a Percent of Total Volume

A better measure of the effect of a provider's Medicaid volume was to use Medicaid volume as a percent of total volume. To facilitate this analysis, pharmacies were arrayed into meaningful classifications of Medicaid utilization.

Table 3.12 Pharmacy Medicaid Utilization Ratio

Medicaid Prescription Volume as a Percent of Total Volume	Number of Stores	Unweighted Average (Mean) Cost	Standard Deviation of Cost	Average Annual Total Prescription Volume
0.0% to 9.9%	130	\$6.72	\$1.82	79,495
10.0% to 29.9%	146	\$6.34	\$1.86	66,635
30.0% and Higher	86	\$6.03	\$1.95	90,913

The differences in the sample averages (means) shown in Table 3.12 for the high Medicaid utilization and the low Medicaid utilization groups were statistically significant (at the 5% level of significance). There was no trend observed that indicated that higher Medicaid utilization ratios contributed to higher costs of dispensing. In fact, just the opposite trend (i.e., lower dispensing cost associated with higher Medicaid utilization ratios) appeared to be present in the survey data.

8) Provision of Unit Dose Dispensing Services

Pharmacies were classified by whether or not they provided prescription drugs in unit dose packaging.

Table 3.13 Provision of Unit Dose Prescription Services

Type of Pharmacy	Number of Stores	Unweighted Average (Mean) Cost	Standard Deviation of Cost	Average Annual Total Prescription Volume
Provides Unit Dose Services	62	\$6.51	\$2.00	119,425
Does Not Provide Unit Dose Services	300	\$6.38	\$1.86	68,257

The differences in the unweighted sample averages (means) observed here were *not* statistically significant.

9) Combinations of Significant Attributes

Previously, it was noted that all of the following factors were associated with significantly higher dispensing costs (in addition to total prescription volume):

- Institutional pharmacies (as compared to retail pharmacies)
- Chain pharmacies (as compared to independent pharmacies)
- Urban pharmacies (as compared to rural pharmacies)

Table 3.14 presents measurements associated with various combinations of the above pharmacy characteristics.

Table 3.14 Grouped by Institutional vs. Retail Status, Affiliation and Location

Pharmacy Group	Number of Stores	Unweighted Average (Mean) Cost	Standard Deviation of Cost	Average Annual Total Prescription Volume
Rural Independent	114	\$5.95	\$1.99	61,099
Urban Independent	41	\$6.41	\$2.63	60,048
Rural Chain	89	\$6.38	\$1.25	70,980
Urban Chain	83	\$6.78	\$1.55	80,392
Rural Institutional	11	\$6.82	\$1.97	52,453
Urban Institutional	9	\$7.20	\$1.40	291,207

Multivariate Analysis

The analyses described above tested for significant differences in cost by analyzing one pharmacy attribute at a time. A more sophisticated method to analyze the impact of pharmacy characteristics upon dispensing cost is to use a stepwise multivariate regression analysis. In such an analysis, it is possible to control for factors known to affect dispensing cost, such as total prescription volume, and determine if other factors have a significant impact on dispensing cost. It is possible for an attribute to be not statistically significant in a *t*-test, but still be shown to have some effect on dispensing cost in a multivariate analysis (or vice versa).

Several analyses were conducted to identify potential correlation between pharmacy dispensing cost and certain pharmacy traits. This approach allows for a more robust analysis than can be achieved by *t*-tests alone to determine the potential influence of pharmacy characteristics on dispensing cost. The traits that were used in the analysis included:

- Prescription sales volume
- Prescription sales ratio
- Type of location
- Unit dose delivery systems
- Delivery service
- Level and percent of Medicaid volume
- Total prescription volume
- Type of ownership
- Pharmacy building ownership
- Geographic location
- Provision of I.V. or infusion services
- Hours open
- Length of operation at location
- Percent of prescriptions dispensed paid by third party payers
- Type of affiliation

The attributes which proved to be the most significant were:

- Total prescription volume
- Provision of I.V. or infusion services

- Provision of delivery service
- Chain affiliation status

The relationship between total prescription volume and dispensing cost was especially pronounced. A linear model to predict total prescription dispensing costs based on prescription volume alone was able to explain over 80% of the variation in dispensing costs in retail pharmacies. Linear regression methods indicate that the regression equation which best describes the relationship of total prescription volume and total dispensing cost in retail pharmacies is:

$$\text{Total Costs (inflated)} = \$84,415 + \$4.60x (\text{Total Prescription Volume})^9$$

Chart 3.4 Relationship Between Total Costs and Total Prescription Volume (Retail Pharmacies)

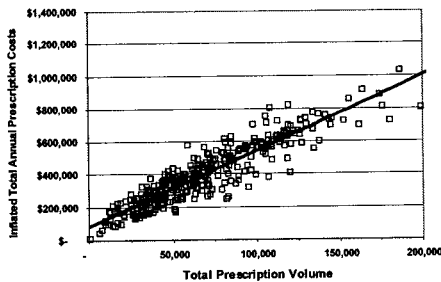
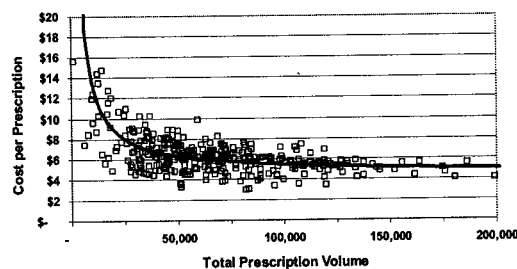


Chart 3.5 Relationship Between Cost per Prescription and Total Prescription Volume (Retail Pharmacies)



In this simplified model of pharmacy dispensing cost, there is the implication that there are fixed costs of \$84,415 and variable costs of \$4.60 per prescription associated with the “typical” pharmacy. The average total prescription volume for retail pharmacies was approximately 68,300. For such a pharmacy, total prescription costs predicted by the equation are \$398,595, or \$5.84 per prescription. Clearly, for pharmacies with a high total prescription volume, fixed costs per prescription decrease. Conversely, low volume pharmacies have greater fixed costs per prescription (see Charts 3.4 and 3.5).

No other attribute contributed more than 2% to the predictive power of the linear regression techniques after controlling for the variation of total prescription volume.

⁹ Retail pharmacies only. The regression equation shown above was produced using an iterative regression technique that excluded some statistical outliers that would have had the effect of distorting the regression equation.

Adjustments to Compensate for Survey Bias

Previously it was noted that the total number of pharmacies used in this analysis of dispensing costs was slightly biased toward the inclusion of chain pharmacies. Furthermore, it is noted that the proportion of institutional pharmacies that submitted dispensing cost surveys was higher than the incidence of institutional pharmacies in the total population of Medicaid participating pharmacies. No bias was observed with regard to the urban versus rural location of pharmacies.

This observed survey bias becomes significant given that statistically significant differences in dispensing cost have been observed for these various subsets of pharmacies. This means that the overall average dispensing cost is slightly skewed toward the cost of the pharmacies over-represented in the final analysis sample. To compensate for bias, an adjusted average dispensing cost was calculated, as demonstrated in Table 3.15.

Table 3.15 Calculation of Adjusted Average Dispensing Cost

Pharmacy Type	Stores in Kentucky Medicaid Pharmacy Population	Average Medicaid Prescription Volume	Percent of Total Medicaid Volume	Average Dispensing Cost Observed in Sample (Weighted by Medicaid Volume)	Contribution to Composite Average for all Stores
Independent	692	11,762	53.5%	\$5.28	\$2.82
Chain	512	8,633	29.1%	\$6.11	\$1.78
Institutional	53	50,076	17.4%	\$6.64	\$1.16
Total	1,257	12,103(Avg)	100%	\$5.86 (Avg)	\$5.76

These calculations yield an estimated average dispensing cost (weighted by Medicaid volume) of \$5.76. In theory, had the survey response rate better matched the proportions that these pharmacy types exist in the entire pharmacy provider population, the overall average (mean, weighted by Medicaid volume) dispensing cost would have been approximately \$5.76 for all non-specialty pharmacies.

Dispensing Cost Issues for Institutional and Specialty Pharmacies

Based on previous experience performing dispensing cost studies for the Commonwealth of Kentucky, Myers and Stauffer has become aware of specific concerns relating to the dispensing costs of certain pharmacy specialties. Paramount among the concerns expressed are the dispensing costs of pharmacies that dispense prescriptions to residents of long-term care facilities and pharmacies that dispense specialty prescriptions including intravenous and infusion services.

Institutional Pharmacies

Institutional pharmacies are operated in a distinctly different manner than a traditional retail pharmacy. One primary consideration is that these pharmacies tended to be very high volume pharmacies. As noted previously in the report, pharmacies with a high prescription volume tend to be more efficient with lower dispensing costs per prescription. Institutional pharmacies typically provide services not offered in many retail pharmacies. This includes a heavier reliance on delivery services and unit dose dispensing systems. While there may be higher labor and overhead costs associated with the prescription delivery and packaging of unit dose prescriptions, there are also efficiencies associated with the "assembly line" production style of the pharmacy. In contrast, traditional retail pharmacies dispense prescriptions "one at a time" as customers come to the store or as physician calls are received. The greater control over the queuing of prescription requests in an institutional pharmacy creates a significant advantage in terms of scheduling the optimal amount of labor required to perform prescription dispensing functions.

The survey instrument used in the study of pharmacy dispensing cost was designed such that costs associated with the dispensing of unit dose prescriptions were appropriately captured and included in the dispensing cost analysis. For a variety of reasons relating to patient safety, convenience and ability for returns, dispensing drugs in unit dose packaging is often preferable, or even contractually required, for institutional pharmacies to dispense to nursing facility residents. Unit dose prescriptions can either be purchased in pre-packaged unit dose forms from the drug manufacturer, but most often is packaged into unit dose forms within the pharmacy. The additional cost associated with unit dose packaging (as opposed to traditional packaging) is reflected in building, equipment, supplies and labor expenses.

It is noteworthy that institutional pharmacies often provide other services to nursing homes beyond the typical prescription dispensing services offered in a retail pharmacy. This includes the services of a consultant pharmacist in the long-term care facility as well as medication carts, emergency medication kits and various expanded inventory control procedures. However, these additional services are provided as the result of a direct contractual relationship between the institutional pharmacy and the long-term care facility. Remuneration to the

pharmacies for these services is subject to the provisions of those contractual relationships. Consequently, any cost for these pharmaceutical consulting services would be reported to Kentucky Medicaid via the *nursing facility cost report*. It would therefore be inappropriate to include these consulting services in a survey of the cost of *dispensing* prescription medications. To the extent that such costs could be explicitly identified, the costs associated with consultant pharmacists were not included in the analysis of dispensing cost.

Intravenous and Infusion Pharmacies

A small number of pharmacies that responded to the dispensing cost survey indicated that a significant portion of their business consisted of filling intravenous or infusion prescriptions. In every dispensing cost survey performed by Myers and Stauffer in which data on the provision of intravenous or infusion services was collected, the provision of this service has been associated with higher dispensing costs.

There is some difficulty, however, in determining an average dispensing cost for this type of activity with any degree of stability. Reasons for this include the following:

- There is a significant inconsistency in the way in which pharmacies count the number of intravenous or infusion prescriptions dispensed. A pharmacy may mix and deliver many “dispensings” of a daily intravenous or infusion solution from a single prescription, thus incurring additional costs spread over a smaller number of prescriptions. Alternatively, some pharmacies count each daily dispensing individually.
- Many pharmacies that dispense intravenous or infusion prescriptions also dispense traditional prescriptions. The task of segregating intravenous/infusion and traditional dispensing costs is made difficult by the combined approach to financial and prescription record keeping which make it difficult to isolate costs associated with the dispensing of intravenous or infusion prescriptions.
- Based on a review of the literature, there is also considerable variability in the labor and equipment cost inputs into various types of intravenous or infusion prescriptions.

Because of these factors, Myers and Stauffer has typically seen extreme variation in the dispensing cost calculated for pharmacies that provide intravenous or infusion prescription services. In the current survey, the dispensing cost at the 10 responding pharmacies that dispensed a significant amount of intravenous or infusion prescriptions ranged from \$8.92 to almost \$80. The average (mean) dispensing cost was approximately \$43, but it should be noted that this average is highly unstable (standard deviation of approximately \$28).

Under current policies, the Kentucky Department for Medicaid Services reimburses for intravenous prescriptions in a dispensing fee plus ingredient reimbursement formula similar to traditional retail prescriptions. Although

dispensing costs at intravenous pharmacies is well in excess of the current dispensing fee, this reimbursement methodology has been accepted by these pharmacies because the margin on ingredient reimbursement has allowed pharmacies to offset any shortfall from the dispensing fee. In the case of intravenous prescriptions, the typical ingredient reimbursement per prescription is much higher than for traditional retail prescriptions. Margins realized on the ingredient portion of reimbursement have traditionally been sufficient to subsidize the difference between dispensing costs and dispensing reimbursement. So long as the ingredient reimbursement rate remains at AWP minus 12%, the need for the Department to set a separate dispensing fee for intravenous drugs is somewhat mitigated by the margins realized on ingredient reimbursement.

Other Dispensing Cost Issues

Components of Cost

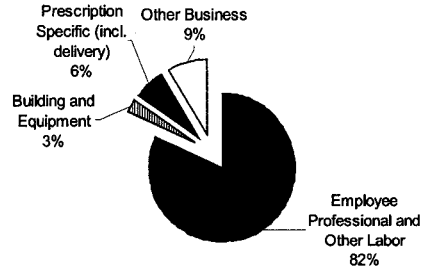
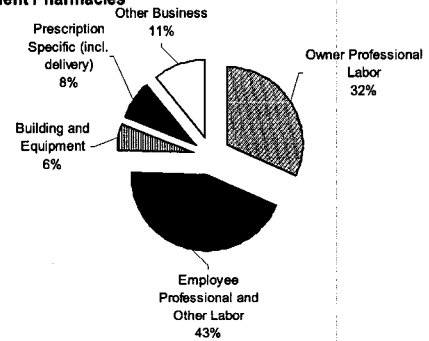
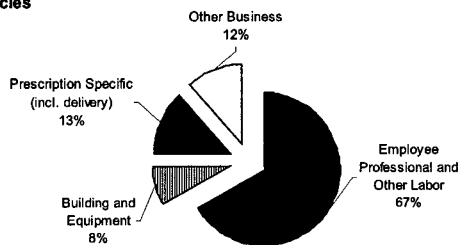
The dispensing costs of the surveyed pharmacies were broken down into the various components of overhead and labor related costs. Table 3.16 and Charts 3.6 through 3.8 display the various cost components of the mean costs for pharmacies in the sample. Mean costs shown are weighted by Medicaid prescription volume.

Expenses were classified as follows:

- Owner professional labor – owner's labor costs were subject to constraints in recognition of its special circumstances as previously noted.
- Employee professional labor consists of employee pharmacists. Other labor includes the cost of delivery persons, interns, technicians, clerks and any other employee with time spent performing the prescription function of the pharmacy.
- Building and equipment expense includes depreciation, rent, ownership costs, repairs, utilities and any other expenses related to building and equipment.
- Prescription-specific expense includes pharmacist-related dues and subscriptions, prescription containers and labels, prescription-specific computer expenses, prescription-specific delivery expenses (other than direct labor costs), continuing education, and any other expenses that are unique to the prescription dispensing business.
- Other business expenses consist of all other expenses that were allocated to the prescription dispensing function of the pharmacy including interest, insurance, telephone, and legal and professional fees.

Table 3.16 Components of Prescription Dispensing Cost

Type of Expense	Chain Pharmacies	Independent Pharmacies	Institutional Pharmacies
Owner Professional Labor	\$0.00	\$1.67	\$0.00
Employee Professional and Other Labor	\$4.99	\$2.31	\$4.43
Building and Equipment	\$0.20	\$0.29	\$0.55
Prescription Specific Expenses (incl. delivery)	\$0.39	\$0.42	\$0.89
Other Business Expenses	\$0.53	\$0.59	\$0.77
Total	\$6.11	\$5.28	\$6.64

Chart 3.6 Components of Cost per Prescription for Chain Pharmacies**Chart 3.7 Components of Cost per Prescription for Independent Pharmacies****Chart 3.8 Components of Cost per Prescription for Institutional Pharmacies**

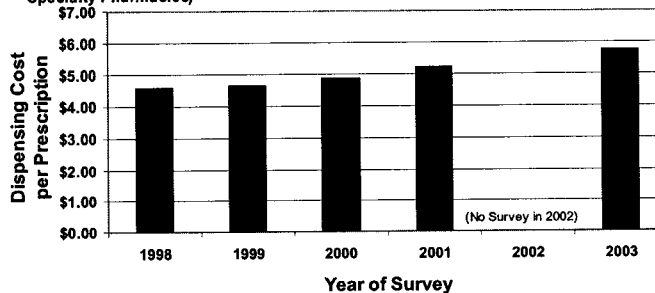
Clearly, labor is the single largest component of cost for all pharmacy types. Labor-related expenses accounted for 65% to 85% of overall prescription dispensing costs. Chain pharmacies tended to have a larger ratio of labor costs compared to independent and institutional pharmacies. Institutional pharmacies incurred higher overhead costs, a fact which is particularly tied to their greater investment in specialty prescription dispensing equipment and a greater use of personnel and vehicles for prescription delivery.

Comparison to Previous Cost Surveys

Myers and Stauffer has conducted five surveys of dispensing cost in the Commonwealth of Kentucky during the last six years. Data from the current and previous surveys were compared to ascertain the magnitude of change in dispensing cost during recent years.

Chart 3.9 displays the trend of dispensing cost since the 1998 survey. Increases in pharmacy dispensing cost continues to outpace overall economic inflation trends as measured by the CPI. This is a reversal of a trend observed in the mid-1990's in which the rate of inflation, as measured by the CPI, outpaced increases in pharmacy dispensing cost. The slower growth of pharmacy dispensing cost during that time could be attributed to efficiency gains due to rapidly increasing average prescription volume as well as cost containment pressures from managed care as pharmacies became increasingly dependent on third party reimbursement.

Chart 3.9
Dispensing Cost Since 1998 for Kentucky
Pharmacies
(Based on Mean Dispensing Cost - Weighted by Medicaid Volume - Excludes Specialty Pharmacies)

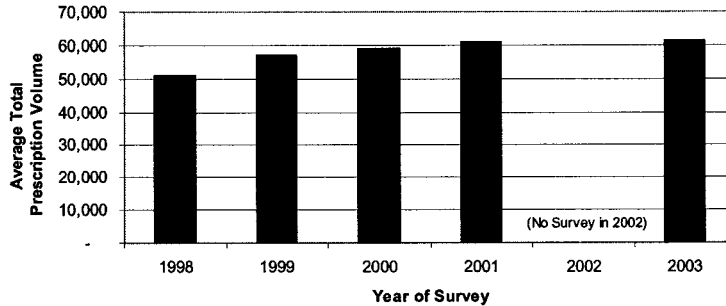


In the current survey, it is noted that although there was still an increase in the average prescription volume for pharmacies responding to the survey, the rate of increase was markedly lower (see Chart 3.10). Though the total number of prescriptions dispensed by pharmacies in the nation continues to increase, so does the number of pharmacies. Retail chain pharmacies, in particular, have opened new stores in many markets.

The overwhelming dynamic that has acted upon pharmacy dispensing cost in the last several years is a dramatic increase in pharmacy labor costs. There has been some widespread reporting in the profession regarding a pharmacist "shortage" and there is considerable discussion of this trend in industry literature¹⁰. This shortage has apparently been caused by the recent increase in overall prescription volume nationwide, rapid growth of retail pharmacy outlets, and a decline in pharmacy school graduation rates.

¹⁰ Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions, "Report to Congress. The Pharmacist Workforce: A Study of Supply and Demand for Pharmacists." December 2000.

Chart 3.10
Median Total Prescription Volume for Pharmacies Responding
to Dispensing Cost Surveys
1998 to 2003
 Excludes Specialty Pharmacies



It would appear that the tight pharmacist labor market has had a very pronounced impact on pharmacist salaries in Kentucky in recent years. Most of the increase in dispensing cost, on a per prescription basis, can be attributed to increases in labor costs. The survey data indicates salary and benefit increases in the range of 15% to 25% over the preceding three years. Chart 3.11 displays the median labor cost per hour for employee pharmacists from the most recent four surveys of pharmacy dispensing cost in Kentucky. The data shows a substantial acceleration in the rate of increase in pharmacist salaries during the last survey period. It was noted that increases in pharmacist salaries were especially pronounced among pharmacists employed in chain pharmacy settings.

Chart 3.11
Employee Pharmacist Labor Cost per Hour
1998 to 2003 Surveys
 Includes Salaries and Benefits

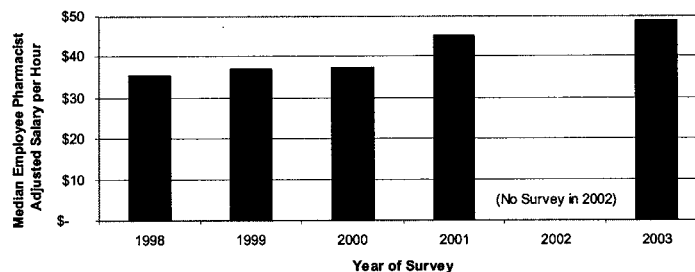


Table 3.17 displays the labor and overhead components of dispensing cost as determined by recent surveys performed by Myers and Stauffer in Kentucky. The results of these surveys show a trend toward increasing labor costs that was especially pronounced during the last two surveys. The change in overhead costs in recent years has been minimal.

Table 3.17 Labor and Overhead Components of Dispensing Cost

Pharmacy Cost of Dispensing ^A			
Year of Survey	Labor	Overhead	Total
1998	\$3.26	\$1.34	\$4.60
1999	\$3.35	\$1.33	\$4.68
2000	\$3.50	\$1.39	\$4.89
2001	\$3.86	\$1.38	\$5.24
2003	\$4.34	\$1.52	\$5.86

^A Average (mean) dispensing cost weighted by Medicaid volume.

Summary

To summarize, the significant findings from the dispensing cost survey are as follows:

- **The statewide average (mean) cost of dispensing, weighted by Medicaid volume, was \$5.86.** This figure excludes 15 specialty pharmacies which exhibited a significantly different cost structure.
- Higher dispensing costs were observed for institutional pharmacies (i.e., pharmacies which dispense a high proportion of prescriptions to residents of long-term care facilities) as compared to more traditional retail pharmacies. These observed differences in dispensing cost at the pharmacies responding to the survey were determined to be statistically significant. This difference in cost appears to be primarily associated with overhead costs for specialized equipment as well as expenses incurred to deliver prescriptions.
- Among retail pharmacies, higher dispensing costs were observed in chain pharmacies, as compared to independent pharmacies. Higher labor cost for employee pharmacists in chain pharmacies was a contributing factor.
- Pharmacies in urban areas of Kentucky were observed to have higher dispensing costs than pharmacies in rural areas.
- Responses to this voluntary survey were slightly biased toward the disproportionate inclusion of institutional and chain retail pharmacies. The observed average dispensing cost for all non-specialty pharmacies was adjusted to yield a composite average dispensing cost based on characteristics of the entire Kentucky Medicaid pharmacy population. This calculation yielded an adjusted average (mean) dispensing cost, weighted by Medicaid volume, of \$5.76.

- This figure of \$5.76 is \$0.52 more than findings from the 2001 study. Significant inflationary pressures continue to operate on pharmacies in Kentucky. Most of the increase in cost on a per prescription basis was associated with increases in labor costs. Anecdotal accounts of increased pharmacist salaries due to a perceived pharmacist “shortage” appear to be confirmed, in part, by the survey data. This phenomenon was especially pronounced for pharmacists employed at chain pharmacies.
- No systematically higher costs associated with pharmacies that have a higher percentage of Medicaid prescription volume were found.

Table 3.18 Inflation Adjusted Mean Dispensing Cost

Period	Midpoint	Inflation Indexed ^A Adjusted ^B Average (Mean) ^C Dispensing Cost
Calendar Year 2003	6/30/2003	\$5.76
State Fiscal Year 2004	12/31/2003	\$5.82
Calendar Year 2004	6/30/2004	\$5.88
State Fiscal Year 2005	12/31/2004	\$5.96

^A Inflation factors are based on the CPI, All Urban. Future inflation projections are based on the CPI, All Urban, as published in *Health Care Cost Review* by Standard & Poor's DRI.

^B Average dispensing cost adjusted to compensate for response rate bias.

^C Weighted by Medicaid prescription volume.

Pharmacy Reimbursement Rates by Other Payers

In addition to the actual cost to dispense prescriptions to Medicaid recipients, another factor of interest to the Department was the issue of reimbursement paid by other payers of pharmaceuticals. To determine this, a survey of prescription charges was obtained from Kentucky pharmacies. This survey enabled an analysis of payments received from cash customers and third party payers other than Medicaid. This chapter also summarizes pharmacy reimbursement rates paid by Medicaid programs bordering or near Kentucky.

Prescription Charges Survey

Methodology

A prescription charges survey was included as an attachment to the dispensing cost survey mailed to each pharmacy (see Exhibit 1). The survey instrument provided for a listing of 50 new prescriptions from one of two survey dates – October 21, 2002, or April 21, 2003. Each pharmacy was asked to list the first 50 new prescriptions filled on or immediately following one of these dates, excluding compounded prescriptions. The survey dates were randomly assigned to each pharmacy so that approximately one-half of the sampled pharmacies was assigned each date. The information requested for each prescription was the prescription number, the name and the strength of the drug, the National Drug Code (NDC) number, the quantity filled, the actual selling price of the prescription, and a code indicating whether the prescription was paid for by a cash-paying customer or a third party reimbursement plan.

The usual and customary survey was utilized for several purposes:

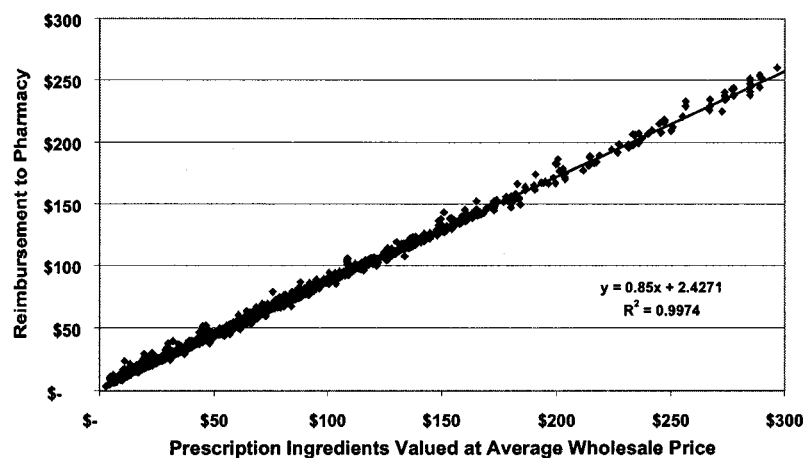
- First, it was used to provide a test of the pharmacy's reported prescription sales and/or number of prescriptions dispensed.
- Second, it was used to determine an estimate of the average prescription reimbursement for each pharmacy. Because prescriptions were marked as being a third party or cash customer, the survey served as a means to estimate the average reimbursement received by pharmacies from these types of customers.

Not all pharmacies filed a usable prescription charge survey and not all pharmacies provided exactly 50 prescriptions; however, a sufficient number of surveys were available. After data entry and editing, the selling price data from approximately 12,000 prescriptions was analyzed.

Analysis and Findings

The data in the prescription charges survey made it possible to estimate the reimbursement paid by other third party payers and cash paying customers. In order to derive the typical reimbursement from other payers, a bivariate statistical regression technique was used. This technique allowed us to use the reimbursement reported on the survey, and the known Average Wholesale Price of the drug to estimate both the ingredient and dispensing reimbursement components of other third party payers and cash paying customers.

Chart 4.1 Prescription Charges Survey
Commercial Insurance Third Party Rxs (Single Source Products Only)



This technique is shown in Chart 4.1. In this example, commercial third party prescriptions for single source products were priced at the applicable AWP price and subjected to analytical procedures to identify statistical outliers. The ensuing data was plotted using the AWP price and the amount of reimbursement to the pharmacy. A linear regression was performed on the data resulting in the equation of a line that best fits the data points. **The slope of the regression line, 0.850, provides an estimate for the average ingredient reimbursement for single source drugs: AWP minus 15.0%. The y-intercept of the regression line, \$2.43, serves as an estimate for the average dispensing fee.** As the graph indicates, there is some variability in the actual reimbursement both above and below the regression line. This is measured by the equation's *standard error of the estimate*: \$2.20. Results of this example and other subsets of the charge survey data are summarized in Table 4.1.

Table 4.1 Regression Analysis of Reimbursement by Pharmaceutical Payers for Single Source Drug Products

Payer Type	Number of Prescriptions in the Sample	Estimated Ingredient Reimb. % of AWP	Estimated Dispensing Fee	Standard Error of the Estimate
Cash	390	93.0%	\$5.04	\$6.28
Commercial Insurance (i.e. PBM)	2,438	85.0%	\$2.43	\$2.20
Medicaid Fee For Service	744	87.9%	\$4.60	\$1.97
Medicaid Managed Care	92	86.6%	\$3.71	\$1.77
Worker's Comp.	29	89.8%	\$2.80	\$2.72
CHAMPUS	53	85.2%	\$1.19	\$1.13

The calculation of Medicaid's fee for service rates provides confirmation that the bivariate methodology produces meaningful results (actual rates for the dates surveyed are \$4.51 dispensing fee and AWP minus 12% for ingredients). Possible explanations for the variation in the estimation of Medicaid fee-for-service rates include the use of an add-on to the dispensing fee for unit dose prescriptions, the application of the lesser of usual and customary charge, and reporting errors by survey participants.

The survey shows that commercial third party payers are reimbursing pharmacies at substantially lower dispensing and ingredient rates than are currently paid by Kentucky Medicaid. The findings in relation to commercial third parties are consistent with a survey performed by Myers and Stauffer for the Department in 1997.¹¹ In this survey of over 300 private insurance contracts with pharmacies, the median dispensing fee was found to be \$2.50 and the median ingredient reimbursement for single source drugs was AWP minus 12%.

A more recent report, published in 2003 by the Center for Health Care Strategies, reports results from a survey of 13 (unnamed) Medicaid-focused managed care organizations (MCO). They report an average dispensing fee of \$2.28 and AWP discounts typically in the range of AWP minus 12% to AWP minus 15%.¹²

¹¹ See *A Study of the Cost of Economically and Efficiently Dispensed Prescription Medications*, January 1998, prepared by Myers and Stauffer LC for the Department for Medicaid Services.

¹² See Berjona, Nancy et al, *Comparison of Medicaid Pharmacy Costs and Usage between Fee-for-Service and Capitated Setting*, January 2003, published by the Center for Health Care Strategies, Inc.

A similar analysis on multi-source products (see Tables 4.2 and 4.3) revealed higher variation of reimbursement. Accordingly, estimates of the average reimbursement for these types of products are less conclusive. This can be attributed to the greater variation of actual acquisition cost by item versus the AWP for multi-source products. The data suggests that more varied reimbursement systems (e.g., alternative MAC¹³ pricing schedules proprietary to a PBM) are used by third party payers for these products with an FUL price.

Table 4.2 Regression Analysis of Reimbursement by Pharmaceutical Payers for Multi-Source Products without an FUL Price

Class of Multi-Source Products	Payer Type	Number of Prescriptions in the Sample	Estimated Ingredient Reimb. % of AWP	Estimated Dispensing Fee	Standard Error of the Estimate
No FUL Price	Cash	338	91.9%	\$4.30	\$3.78
	Commercial Insurance	939	84.3%	\$2.29	\$2.43
	Medicaid FFS	337	88.0%	\$4.42	\$0.23
	Medicaid MCO	72	84.2%	\$2.81	\$1.52

Table 4.3 Regression Analysis of Reimbursement by Pharmaceutical Payers for Multi-Source Products with an FUL Price

Class of Multi-Source Products	Payer Type	Number of Prescriptions in the Sample	Estimated Ingredient Reimb. % of FUL	Estimated Dispensing Fee	Standard Error of the Estimate
Has FUL Price	Cash	438	130.7%	\$7.18	\$3.31
	Commercial Insurance	671	130.4%	\$3.47	\$3.36
	Medicaid FFS	255	100.6%	\$4.43	\$0.95
	Medicaid MCO	20	128.5%	\$2.42	\$0.96

Medicaid Reimbursement in Other States

Information regarding the reimbursement of pharmaceutical products for states in the CMS Region IV or bordering Kentucky was obtained from published sources. Table 4.4 summarizes this information.

¹³ "Maximum Allowable Cost"

Table 4.4 Pharmaceutical Reimbursement by other State Medicaid Programs¹⁴

State	Disp. Fee	Ingred. Reimb.	Comments
Alabama	\$5.40	AWP - 10% or WAC + 9.2%	SMAC ¹⁵ , co-payments \$0.50 to \$3.00
Florida	\$4.23 / \$4.73 nursing home	AWP - 13.25% or WAC + 7%	SMAC, in-house unit dose differential of \$0.015 / dose.
Georgia	\$4.63 / (\$0.50 PDL incentive fee)	AWP - 10%	SMAC, co-payments \$0.50 to \$3.00.
Illinois	\$3.40 brand / \$4.60 generics	AWP - 12.11% brand / AWP - 25.2% generics	SMAC, co-payments \$1.00.
Indiana	\$4.90	AWP - 13.5% brand / AWP - 20% generics	SMAC, co-payments \$0.50 to \$3.00.
Mississippi	\$3.91	AWP - 12%	Co-payments \$1.00 generics, \$3.00 brand, OTC drugs paid at lesser of AWP + \$3.91, AWP+50% or shelf price.
Missouri	\$4.09	AWP - 10.43% or WAC + 10%	SMAC, co-payments \$0.50 to \$2.00.
North Carolina	\$4.00 brand / \$5.60 generics	AWP - 10%	SMAC, co-payments \$1.00.
Ohio	\$3.70	AWP - 12.8% / WAC + 9%	SMAC.
South Carolina	\$4.05	AWP - 10%	SMAC, co-payments up to \$3.00.
Tennessee	100% Managed Care (TennCare). Reimbursement varies with managed care organization.		
Virginia	\$4.25	AWP - 10.25%	SMAC, co-payments \$1.00.
West Virginia	\$3.90	AWP - 12%	Co-payments \$0.50 to \$2.00.

For the states included in Table 4.3, the reimbursement rates of the Kentucky Medicaid pharmacy program (dispensing fee of \$4.51 and ingredient reimbursement of AWP minus 12%) ranks approximately at the median. Furthermore, Kentucky Medicaid's co-payment policy of \$1.00 per prescription, is

¹⁴ Primary sources: *Pharmaceutical Benefits under State Medical Assistance Programs*, National Pharmaceutical Council, 2001; ASCP Analysis of Medicaid Pharmacy Changes (State of the States), American Society of Consultant Pharmacists, June 20, 2003, <http://www.ascp.com/public/ga/State-06-20-03.pdf>, accessed on July 24, 2003. Secondary sources include state Medicaid pharmacy manuals for respective states and Medicaid pharmacy program web sites.

¹⁵ SMAC: Indicates that the state Medicaid pharmacy program uses some state-specific "maximum allowable cost" for certain multi-source drugs in addition to the Federal Upper Limits.

typical, if not slightly less restrictive, than the co-payment policies used by other states.

Conclusions

Based on the prescription charges survey, it appears that other third party payers are reimbursing for pharmaceuticals at rates less than those paid by Kentucky Medicaid. Additionally, third party payers (excluding Medicaid) are not allowing for any margin in their dispensing fees. In fact, dispensing fees paid by most third party payers are set at levels well below the dispensing cost of most pharmacies. Margins are still realized on most third party prescriptions, however, due to the level of ingredient reimbursement. Kentucky Medicaid pharmacy reimbursement rates are set at approximately the median level of reimbursement rates used by neighboring states or other states in CMS Region IV.

SURVEY OF ACQUISITION COSTS

The largest component of pharmacy reimbursement is payment to pharmacies for prescription drug ingredient costs. Most states base ingredient reimbursement on the Average Wholesale Price (AWP) which is available from published sources. Recent studies, including those performed by Myers and Stauffer LC in other states, have shown that pharmacies are able to purchase drugs at prices that are significantly below AWP. To determine the level of discount from AWP currently available to Kentucky pharmacies for the drugs most commonly dispensed to Medicaid recipients, Myers and Stauffer LC performed a study of drug acquisition costs.

Methodology

Development of Methodology

The study of acquisition cost was based upon a simple comparison of prices paid by pharmacies with the AWP in effect at the time of the drug purchase. Drug purchase prices for each pharmacy were obtained from the pharmacy's own invoices. Myers and Stauffer LC has used this method to study pharmaceutical acquisition costs in 11 previous surveys. Such a technique has also commonly been used by the Office of the Inspector General (OIG) of the U.S. Department of Health and Human Services.¹⁶ Results of previous studies performed by Myers and Stauffer LC and the OIG are included in Appendix C to this report.

Survey Procedures

Myers and Stauffer obtained a summary of the utilization of the pharmacy program by drug product from the Department for Medicaid Services. Using this summary, a list of the top 1,000 single source and top 1,000 multi-source drug products ranked by total reimbursement for the calendar year ending

¹⁶ The OIG has also used price lists obtained directly from wholesalers. The process to obtain such price lists could face obstacles and does not yield as compelling evidence of the actual price paid by a pharmacy as could be obtained from an invoice.

December 31, 2002, was created. The drug summary file included the following data elements summarizing utilization for each drug product:

- Number of prescriptions
- Number of units
- Dollar amount reimbursed

The file also included the following price information for each drug product for the sample months of October 2002 and April 2003:

- Average Wholesale Price
- Federal Upper Limit price (if applicable)
- State Maximum Allowable Cost (if applicable)

As summarized in the table below, the 2,000 drug products analyzed represent approximately 91% of Kentucky Medicaid drug reimbursement.

Table 5.1 Utilization Overview for Drugs in Sample

Drug Classification	Total Program Reimbursement	Program Reimbursement for Sampled Drug Products	Sample Drugs Reimb. as Percent of Total Program Reimb.
Single Source Products	\$525.6 Million	\$513.3 Million	97.7%
Multi-Source Products	\$206.0 Million	\$151.8 Million	73.7%
Total	\$731.6 Million	\$665.1 Million	90.9%

The Medicaid pharmacy provider population included 1,257 pharmacies. All pharmacies were sent a letter from the Kentucky Department for Medicaid Services informing them that Myers and Stauffer would be performing a survey of pharmacy acquisition cost (see Exhibit 3). Pharmacies also received a request that they copy drug purchase invoices covering a one-month period. One-half of the pharmacies were requested to send invoices from October 2002, and the other half from April 2003 (see Exhibit 4). Pharmacies were requested to submit invoices for drug purchases from both wholesalers and manufacturers.

A small number of pharmacies indicated an inability to participate in the acquisition cost survey due to being recently opened or experiencing a change of ownership in the last six months (which precluded financial records from being available for the requested period). Additionally, there were a limited number of invoices received that did not meet the criteria for use in the survey. The primary problems with these invoices included invoices from the incorrect year or month,

purchase summaries that encompassed an extended time period, or invoices that lacked a standardized identifier (i.e., NDC or manufacturer item code).

Two pharmacies which supplied invoices were determined to be the recipients of special pharmaceutical pricing made available through participation in the "Section 340B" drug discount program¹⁷, under which certain federally funded grantees have access to low-cost pharmaceutical drugs. Although the data supplied by these pharmacies was valid, they reflected a much lower acquisition cost than other pharmacies. Since pharmacies that received Section 340B pricing are reimbursed for drugs ingredients using an actual acquisition cost methodology¹⁸, rather than an estimated acquisition cost methodology, the results from these pharmacies has been excluded.

Ultimately, usable invoices were received from 152 pharmacies after follow-up efforts to encourage participation. Characteristics of the total sample of 152 pharmacies compared to the study's eligible population are presented in Table 5.2.

Table 5.2 Sample Pharmacy Characteristics

Pharmacy Trait	EAC Study Eligible Population	Pharmacies Included in EAC Analysis
Number of Pharmacies	1,257	152
Average Annual Medicaid Volume	12,103	13,384
Medicaid Volume Standard Deviation	21,387	13,634
Percent Chain	42.3%	42.1%
Percent Urban	41.4%	35.2%

For the traits listed in Table 2.2, the sample of 152 pharmacies was tested to determine if it was representative of the population of Kentucky Medicaid provider pharmacies. Since the response rate of the sample pharmacies was less than 100 percent, the possibility of bias in the responding sample should be considered. To measure the likelihood of this possible bias, a chi square (χ^2) test was performed.

The results of the χ^2 tests indicate that the final sample of 152 sets of invoices was not biased with regards to the chain versus independent affiliation status or the urban versus rural location of the submitting pharmacies.

From the invoices received, the drug purchase date, NDC number, drug name, strength, package size, quantity purchased, and extended price paid were entered into a database. Myers and Stauffer reviewed and edited the database, eliminating data entry errors. Data was input from 141,606 invoice line items (representing purchases of approximately \$19.3 million). Of these, there were

¹⁷ The Section 340B program makes reference to section 340B of the Veterans Health Care Act of 1992 and is administered by the Office of Pharmacy Affairs, a division of the U.S. Department of Health and Human Services.

¹⁸ See 907 KAR 1:1018 Section 2.13.

75,802 line items that matched the list of 2,000 drugs. Acquisition cost data for 1,644 of the 2,000 sample drug products is included in the study.

Many chain pharmacies operate a product warehouse that acts as a storage and distribution center for member chain stores and often operates as a profit center. Some of the chains submitted internally generated invoices for their drug purchases. The prices on these internal invoices reflected the warehouse cost of drugs and generally not true arms-length transactions. Although these invoices may include legitimate warehousing operational costs, they may also include a profit factor.

There were 19 chain stores in the sample of 152 that submitted internally produced invoices for the vast majority of drug purchases. The drug prices reflected on these invoices created some concerns regarding their validity. Historically, it has been observed that these concerns cannot always be resolved via conversations with the submitters, therefore, many of the following findings are reported exclusive of the data from these stores' internal invoices.

Analysis and Findings

Invoice drug purchases were separated into the single source and multi-source categories for analysis. These two groups have distinctly different purchase discounts from AWP. Discounts for single source drug products were generally smaller than discounts for multi-source products. Additionally, the range of discounts for single source products was smaller than the range exhibited by multi-source products.

The analysis of acquisition cost focused on two areas:

- Distribution of acquisition cost by drug product
- Distribution of acquisition cost by pharmacy and pharmacy type

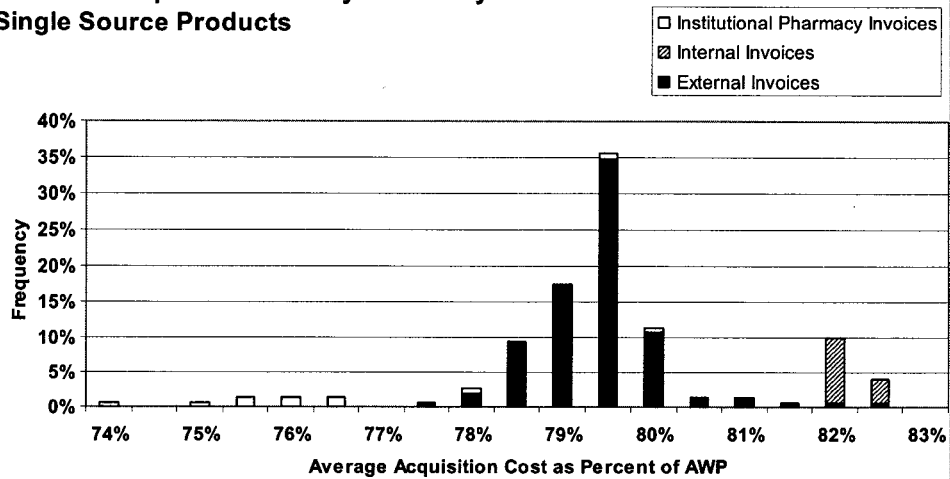
Single Source Drug Products

The following observations resulted from the analysis of the acquisition cost of single source drugs:

- For the 133 pharmacies¹⁹ that provided invoices from external wholesalers, typical average acquisition costs for single source drugs ranged from 79% to 80% of the AWP. **The average acquisition cost was 79.4%, with a standard deviation of 1.2%.** (see Chart 5.1 and Exhibits 13 and 17).

¹⁹ Of the 133 pharmacies with external invoices, there were observations of *single source drugs* from only 130 pharmacies.

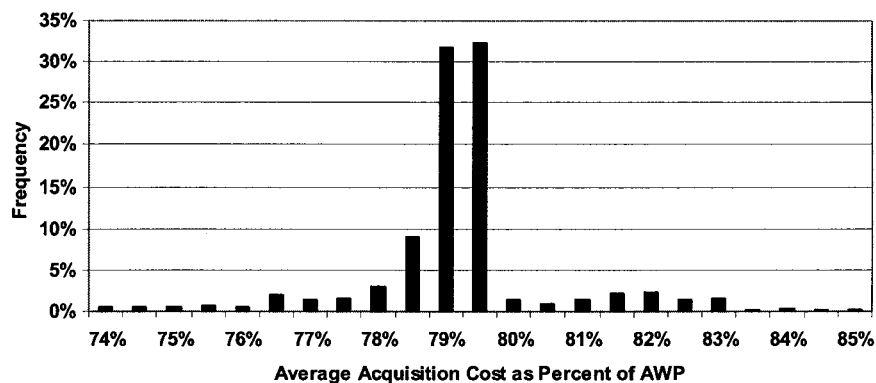
**Chart 5.1 Acquisition Cost by Pharmacy
Single Source Products**



- Including pharmacies which provided invoices from an internal wholesaler, the average acquisition cost for single source drugs was 79.8% of the AWP, with a standard deviation of 1.5%.
- Some of the pharmacies in the sample were institutional providers that dispensed prescriptions to patients in long-term care or other institutional settings. Acquisition costs at these pharmacies for single source drug products averaged 76.8% of the AWP, as compared to 79.7% for pharmacies that dispensed prescriptions in traditional retail settings (see Table 5.4 and Exhibit 17).

**Chart 5.2 Acquisition Cost by Drug Product
Single Source Products**

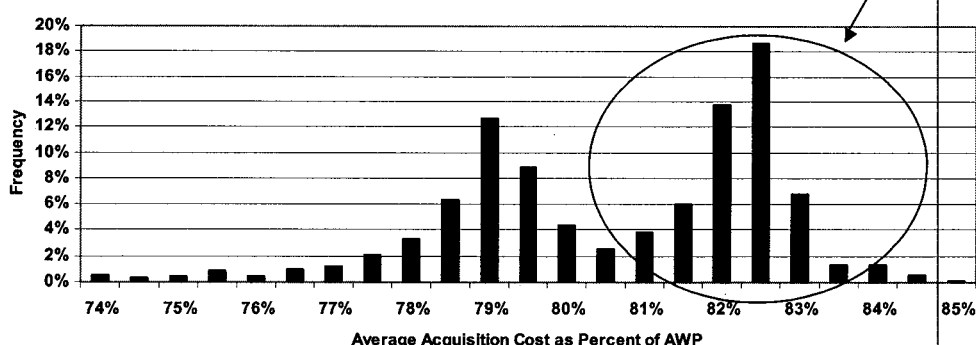
(Based on External Invoices Only)



- Of the sampled 1,000 single source drugs, 867 drug products were matched to one or more purchases. For these 867 single source products, average acquisition cost was 78.9% of the AWP (based on observations from external invoices only – see Exhibit 17).

- The distribution of acquisition costs as a percent of the AWP for single source drug products (see Chart 5.2) was markedly different from distributions that have been observed in previous studies of pharmacy acquisition cost performed by Myers and Stauffer for the Department. Previously, these discounts were observed to create a bi-modal distribution such that many products had acquisition costs that clustered near the 78% - 80%, and 82% - 84% ranges (see Chart 5.3). The source of this bi-modal distribution was primarily driven by differences in pricing among the various manufacturers of single source drug products. It appears that most manufacturers that previously priced their products in the range of 82% to 84% of the AWP have shifted their prices (relative to the AWP) to the range of 78% to 80% of the AWP. The net impact of this shift in pricing strategies has resulted in an overall shift in actual acquisition cost relative to the AWP of approximately 2% to 3%. Exhibit 22 shows a selection of manufacturer-specific average discounts from the AWP in the current study and in the previous acquisition cost study performed by Myers and Stauffer in 2001.

Chart 5.3 Acquisition Cost by Drug Product
Single Source Products
2001 Acquisition Cost Survey
(Based on External Invoices Only)



Multi-Source Drug Products

Although multi-source drug products are an important part of the Medicaid drug program, they account for a much smaller portion of program expenditures than single source products. Table 2.3 summarizes findings for multi-source products. A more in-depth treatment of multi-source product acquisition cost is included in Appendix D.

Table 5.3 Multi-Source Drug Product Acquisition Cost Findings

Average Acquisition Cost as a Percent of Given Price Type ^A			
Price Type	Products without an FUL Price	Products with an FUL Price	Exhibit References
AWP	55.3%	15.2%	15, 16, 18, 19
FUL	-	40.4%	16, 20
SMAC	75.4%	20.2% ^B	15, 21 ^B

^A Percentages shown are the averages by drug product and are weighted by Medicaid utilization.

^B Only a very limited number of products with both a SMAC and FUL price were observed in the invoice data. Exhibits 15 and 21 exclusively show multi-source products with a SMAC price, but not an FUL price.

Analysis of Pharmacy Characteristics

In addition to analyzing the distribution of the acquisition cost of drugs by pharmacy and individual product, other characteristics were examined to determine statistical significance. These characteristics include:

- Institutional versus retail pharmacy setting
- Chain versus independent pharmacy affiliation
- Urban versus rural pharmacy location
- Total annual prescription volume.

For many of these characteristics, limiting the analysis to single source drug products was preferable because of the wide variation in acquisition cost of multi-source products. This variability in cost can make apparent differences statistically insignificant. It also is reasonable to limit some analyses to single source products because Kentucky Medicaid expends a high proportion of its drug budget on prescriptions for these products.

In Tables 5.4 through 5.7, findings are expressed in terms of means and standard deviations. Exhibits 17 through 21 provide additional statistical measures including the standard error of the mean, confidence intervals and percentile rankings. Through these statistical measures, recognition is given to the fact that the data available in this analysis represents only a sample of the total population. However, characteristics of the data, such as standard deviation and sample size, enable a reasonable prediction of the range in which the true population average lies.

Confidence intervals given in Exhibits 17 through 21 were calculated using appropriate statistics from the *t* distribution at the 95% confidence level. These intervals are a range estimate for the population mean, and are based upon the

sample mean, standard deviation, and sample size. A 95% confidence interval identifies the range which one would expect the mean from *any* sample to fall 95% of the time. It can be inferred that there is a 95% probability that the population mean lies within the range of the confidence interval.

The following statistics of pharmaceutical acquisition cost, unless stated otherwise, include only pharmacies that submitted external invoices.

1) Institutional Versus Retail Pharmacy Setting

Of the 133 pharmacies in the sample (of which 130 had observations for single source products), 11 were institutional pharmacies that dispensed prescriptions primarily to patients in long-term care settings as opposed to retail pharmacies that primarily dispensed prescriptions to ambulatory patients.

An analysis to determine the significance of the difference in acquisition cost between the institutional and retail pharmacies is best accomplished through a *t*-test.

Table 5.4 Institutional Versus Retail Pharmacies

Type of Pharmacy	Number of Observations	Number of Pharmacies	Mean Acq. Cost as % of AWP	Standard Deviation
Institutional	1,717	11	76.8%	1.9%
Retail	30,975	119	79.7%	0.7%

Note: Observations are for Single Source Drug Products Only

In this case, the difference between institutional and retail pharmacies (with institutional pharmacies averaging lower acquisition costs) was statistically significant at the 5% level of significance (for purchases of single source drug products).

2) Chain Versus Independent Pharmacy Affiliation

The difference in acquisition cost between chain and independent pharmacies was found to be significant for single source drug products. Curiously, chain pharmacies in the study were shown to have slightly higher average acquisition costs for single source drugs than their independent counterparts. This observation is counterintuitive to conventional wisdom regarding volume-based discounts. However, it is noted that the observed difference in average acquisition cost is small (0.4%) and is only made statistically significant due to the extremely low variance in the observations. Furthermore, previous interactions with chain pharmacies have indicated the possibility for some off-invoice

discounting to occur between a wholesaler and a chain pharmacy operation. Such discounts were not captured or quantified in the current study.

Table 5.5 Chain Versus Independent Pharmacies (Retail Only)

Type of Pharmacy	Number of Observations	Number of Pharmacies	Mean Acq. Cost as % of AWP	Standard Deviation
Chain	18,203	40	79.9%	0.5%
Independent	12,772	79	79.5%	0.7%

Note: Observations are for Single Source Drug Products Only

As previously noted, several of the chains perform an internal warehousing and wholesaling function and supplied in-house invoices for this study. It is possible that the actual acquisition costs incurred by chain pharmacies, net of warehousing and distribution costs, is less than indicated on an internal invoice. The average acquisition cost for all chain pharmacies (including both internal and external invoices) was 80.7% of the AWP.

3) Urban Versus Rural Pharmacy Location

Myers and Stauffer used the zip code of each pharmacy to determine if it was located in a Metropolitan Statistical Area as used by CMS. Only in-state pharmacies were included in this analysis. The pharmacy's location in an urban or rural area was *not* found to be significant (for single source drug products at the 5% level of significance).

Table 5.6 Urban Versus Rural Location (Retail Only)

Type of Pharmacy	Number of Observations	Number of Pharmacies	Mean Acq. Cost as % of AWP	Standard Deviation
Urban	11,316	41	79.8%	0.6%
Rural	18,864	74	79.6%	0.7%

Note: Observations are for Single Source Drug Products Only

4) Total Prescription Volume

Pharmacies were classified into meaningful groups based upon their differences in total prescription volume. Acquisition costs were then analyzed based upon these volume classifications. Total prescription volume was obtained from the pharmacies' responses to the dispensing cost survey (as described in Chapter 3). A very limited number of pharmacies supplied invoices for the acquisition cost study, but did not submit an acquisition cost survey. Since total prescription

volume for those pharmacies was unknown, they were not included in this portion of the analysis.

Table 5.7 Total Annual Prescription Volume (Retail Only)

Total Annual Prescription Volume of Pharmacy	Number of Observations	Number of Pharmacies	Mean Acq. Cost as % of AWP	Standard Deviation
0 to 49,999	13,046	65	79.6%	1.1%
50,000 to 99,999	16,586	46	79.4%	0.7%
100,000 and Higher	2,506	16	78.7%	1.8%

Note: Observations are for Single Source Drug Products Only

For pharmacies with annual volume greater than 100,000 prescriptions, the differences in average acquisition costs from the two other volume groupings were found to be statistically significant (at the 5% level of significance for purchases of single source drug products).

Analysis of Drug Characteristics

Attention was also given to classifications of drug products to determine a possible relationship with acquisition cost. Acquisition cost for single source drugs (as a percent of the AWP) were arrayed by their classification to determine if the drugs' therapeutic use played a role in determining the acquisition cost.

Table 5.8 Acquisition Cost by Drug Classification

Drug Classification	Number of Observations	Number of Products	Mean Acq. Cost as % of AWP	Standard Deviation
Miscellaneous Antipsychotic Agents	970	32	80.0%	2.0%
Miscellaneous Anticonvulsants	2,248	43	79.7%	2.5%
SSRI Antidepressants	2,292	18	78.5%	2.4%
COX-2 Inhibitors	1,021	14	79.3%	1.4%
Proton Pump Inhibitors	1,704	12	79.5%	3.3%
HMG-COA Reductase Inhibitors	2,006	16	79.1%	2.3%
Miscellaneous Antidepressants	1,411	20	79.9%	1.6%
Antihistamines	1,684	12	79.9%	1.2%
Thiazolidinediones	1,024	12	79.8%	1.2%
Macrolides	1,709	15	80.6%	1.5%
Leukotriene Modifiers	1,076	8	78.7%	3.8%
Quinolones	595	14	77.2%	4.6%
All Other	24,182	464	79.5%	4.8%

Note: Observations are for single source drug products from all pharmacies in sample (internal and external invoices).

Although some of the differences in acquisition cost between drug classification are statistically significant, the breakdown of acquisition costs by classification primarily serves to reinforce the conclusion that discounts for single source drug products are almost universally available and consistent. There were no classes of drugs observed for which discounts from the AWP were not available.

Probability Distribution Analysis

The acquisition cost study was performed using a representative sample of 133 pharmacies (which submitted external invoices) from a total population of about 1,250 Kentucky Medicaid pharmacy providers. Acquisition cost as a percent of AWP for single source drug products was relatively consistent among providers and drug products. The low variance in the sample of 133 pharmacies allows us to draw conclusions regarding average acquisition cost from the sample and project them onto the entire population of Medicaid pharmacy providers.

Earlier comments on the acquisition cost of single source products focused on two significant distributions:

- Acquisition cost by drug product
- Acquisition cost by pharmacy

If the distribution of acquisition cost of pharmacy providers and drug products can be assumed to have a normal distribution, there are certain estimates that can be made about the entire population. The most meaningful estimates include:

- The percent of pharmacies that may be unable to obtain a certain level of discount.
- The percent of drugs that may have an acquisition cost higher than a specified level.

These estimates are summarized in the following table and refer only to single source drug products.

Table 5.9 Probability Distribution for Single Source Drugs ²⁰

Level of Acquisition Cost (as % of AWP)	Estimated Percent of Pharmacies with a Higher Average Acquisition Cost	Estimated Percent of Single Source Drug Products with a Higher Average Acquisition Cost
88%	0.0%	0.9%
87%	0.0%	1.8%
86%	0.0%	3.2%
85%	0.0%	5.7%
84%	0.0%	9.3%
83%	0.1%	14.5%
82%	1.3%	21.2%
81%	8.7%	29.6%
80%	31.0%	39.2%

Additionally, based on the low variance exhibited by single source drugs, a relatively small confidence interval exists for the mean acquisition cost. The true mean acquisition cost for the *entire population* is unknown and cannot reasonably be determined since surveying the entire pharmacy population would be cumbersome if not impossible. However, the sample mean and standard deviation allows certain conclusions to be made about the population mean. For the 133 pharmacies in the sample that provided external invoices (retail and institutional), the mean of each store's average acquisition cost as a percent of

²⁰ Estimates in Table 5.9 were derived from the standard normal distribution and are based on the data from the 133 pharmacies which supplies external invoices. The distribution of acquisition cost in retail pharmacies for single source drug products actually has a negative skew. This means that the assumption of a normal distribution has slightly *overstated* the actual probabilities. Hence, there are likely to be *fewer* pharmacies or drug products with average acquisition costs higher than the percentages shown in Table 5.9.

the AWP was 79.4% with a standard deviation of 1.2%. A 95% confidence interval for the mean ranges from 79.2% to 79.6%. This means that for *any* random sample taken from the population, one would expect the sample mean to fall in the confidence interval range 95% of the time²¹.

²¹ Additional confidence intervals are provided in Exhibits 18 through 22. The Central Limit Theorem of statistics suggests that for sufficiently large numbers of samples, the sample mean will be distributed *approximately* normal. Hence, the assumption of normality in the construction of confidence intervals is appropriate. The construction of the confidence intervals cited here and in the exhibits is based upon the Student *t* distribution. The *t* distribution is more appropriate for small sample sizes and produces a more conservative (larger) confidence interval than would the use of the normal distribution.

ANALYSIS OF PHARMACY NET MARGINS ON PRESCRIPTIONS

Combining findings from all aspects of the study of pharmacy dispensing and acquisition cost, Myers and Stauffer examined the issue of pharmacy net margins, or profits, on prescription dispensing activities.

There are several issues related to the analysis of pharmacy net margins that should be clarified prior to presenting findings of pharmacy profitability. As previously mentioned in the discussion of pharmacy dispensing costs in Chapter 3, most pharmacies that participate in the Kentucky Medicaid pharmacy program are engaged in multiple lines of business – one of which is the dispensing of prescription drugs. Other lines of business include retail sales of health-related products and other non-prescription products. A complete analysis of the cost and profit structure of all business lines in which a pharmacy might participate was beyond the scope of this analysis. To do so would involve comparing vastly differing business structures.

As an example of why such an analysis would be daunting, one would not expect an analysis of a chain retail grocery store that includes a pharmacy contributing less than 10% of its total sales to be comparable with an independent pharmacy for which over 90% of sales are of prescription drugs with sundry items compromising the balance of sales. In this example, the two types of stores would be expected to have vastly different gross margins considering differences in the way non-prescription goods are purchased and priced for retail sale.

As described in Chapter 3, cost finding principles, including various allocation methodologies, were employed to estimate the costs associated with the prescription dispensing function of the pharmacy. Therefore, the findings relating to pharmacy net margins should be interpreted to be net margins *exclusively on the prescription dispensing function of the pharmacy*. To the extent that prescription dispensing activities are more or less profitable than other business activities in which a pharmacy is engaged, these findings relating to net margins

may not be reflective of the net margins that the pharmacy (or retail store which includes a pharmacy) realized on its entire book of business.

Additionally, it is important to understand that profitability on prescription dispensing activities will tend to vary among payer types. As demonstrated in Chapter 4, reimbursement levels for prescription drugs vary significantly depending on the payer. Customers without third-party coverage (i.e. "cash customers") tend to pay the highest prices for prescriptions, and customers with private insurance plans (i.e. those administered through a PBM) tend to pay the lowest prices for prescriptions. Reimbursement for prescriptions to Kentucky Medicaid fee-for-service recipients is at a level between that of cash customers and customers with private insurance coverage. One would expect that levels of profitability would vary as well.

Given these considerations, Myers and Stauffer presents two independent analyses of pharmacy net margins. The first considers overall profitability on all prescription dispensing activities, regardless of payer type, and the second focuses exclusively on net margins for prescriptions reimbursed by Kentucky Medicaid at current reimbursement levels.

Analysis of Pharmacy Net Margins

In the first presentation of pharmacy profitability, Myers and Stauffer utilized the dispensing cost survey data to directly calculate net margins for pharmacies participating in the survey. Net margins are presented in two ways: on a percentage basis, and on a per prescription basis.

In its most basic form, net margins on a percentage basis are the result of the following calculation:

$$\text{Percent Net Margin} = \frac{(\text{Rx Sales}) - (\text{Rx Cost of Goods}) - (\text{Rx Dispensing Related Costs})}{(\text{Rx Sales})}$$

Similarly, margins on a per prescription basis resulted from the following calculation:

$$\text{Net Margin per Rx} = \frac{(\text{Rx Sales}) - (\text{Rx Cost of Goods}) - (\text{Rx Dispensing Related Costs})}{(\text{Total Number of Rx's Dispensed})}$$

In both cases, the estimate of pharmacy net margins is exclusively associated with the prescription dispensing function of the pharmacy. No attempt was made to quantify the profitability of the non-prescription related aspects of pharmacy operations.

The determination of prescription dispensing related cost resulted from the cost-finding methodologies described in Chapter 3. As was discussed previously,

these calculations of allowable dispensing cost were developed around established Medicare and Medicaid cost finding principles that exclusively allow for costs *directly related to patient care*. Consistent with these principles, the calculations of dispensing cost were made exclusive of bad debt expense and advertising expense reported by the pharmacies. While these exclusions are appropriate for the calculation of dispensing cost associated with prescriptions for Medicaid recipients, to exclude them in estimates of pharmacy profitability may be misleading. Accordingly, the estimates of pharmacy profitability are presented both exclusive and inclusive of bad debt and advertising expenses.

Following the calculation of net margins for each pharmacy, numerous statistics were calculated to present the central tendency and variability of pharmacy profitability. Exhibits 23 and 24 are a presentation of those measurements, including breakdowns by pharmacy affiliation (i.e., chain versus independent), pharmacy location (i.e., urban versus rural) and pharmacy total prescription volume. In these observations of pharmacy profitability, measurements from specialty pharmacies have been excluded. Furthermore, measurements from eight hospital-based pharmacies have been excluded. These pharmacies were located in hospitals and serviced residents of skilled nursing units located within the hospital. Because of the unique blend of inpatient and outpatient pharmaceutical purchasing which occurs in these pharmacies, their net margins were not easily comparable to more traditional pharmacy operations.

Table 6.1 summarizes the principal findings of the analysis of pharmacy profitability.

Table 6.1 Statistical Summary of Net Margins on Prescription Dispensing

Measurement	Average (Mean)	Standard Deviation	Percentile Ranges		
			20 th	50 th (Median)	80 th
Percent Net Margin (excludes bad debt, advertising expenses)	7.6%	6.2%	3.6%	7.0%	11.4%
Percent Net Margin (includes bad debt, advertising expenses)	7.0%	6.2%	3.0%	6.4%	10.7%
Net Margin per Rx (excludes bad debt, advertising expenses)	\$3.11	\$2.49	\$1.47	\$2.90	\$4.72
Net Margin per Rx (includes bad debt, advertising expenses)	\$2.84	\$2.50	\$1.27	\$2.59	\$4.29

Percentage net margins on prescription dispensing activities at most pharmacies ranged from 3.6% to 11.4% (the 20th and 80th percentiles, respectively). On a per prescription basis, net margins at most pharmacies ranged between \$1.47 and

\$4.72 (the 20th and 80th percentiles, respectively). A limited number of pharmacies, approximately 6%, operated at a net loss.

Analysis of Typical Margins on Medicaid Prescriptions

In a second analysis of pharmacy profitability, Myers and Stauffer used the findings of the dispensing and acquisition cost studies as well as drug utilization data to construct a model of the typical net margins, or profits, that pharmacies realize specifically on Kentucky Medicaid prescriptions. The results of this model are presented in Table 6.2.

As shown in Table 6.2, the current levels of Kentucky Medicaid pharmacy reimbursement result in positive net margins for all types of drug products classified. It is significant to note that although the current Medicaid pharmacy dispensing fee is less than the typical cost of dispensing observed in the dispensing cost study, the shortfall on dispensing fee reimbursement is more than adequately compensated via the allowance for ingredient costs. The net result of the current Medicaid pharmacy reimbursement rate is a net margin of \$5.39, or 12% per prescription.

Table 6.2 Average Net Margins on Medicaid Prescriptions

Drug Category	Average Cost ¹	Average Payment ²	Average Net Margin	Percent Net Margin
Single Source	\$71.50	\$77.37	\$5.87	7.6%
Multi-Source Drugs (no FUL or SMAC)	\$14.33	\$18.15	\$3.82	21.0%
Multi-Source Drugs with a Federal Upper Limit (FUL)	\$11.31	\$18.24	\$6.93	38.0%
Multi-Source Drugs with a SMAC	\$33.04	\$35.27	\$2.23	6.3%
All Drug Product Categories	\$38.00	\$43.29	\$5.39	12.4%

¹ "Average Cost" refers to the average cost incurred by the pharmacy to acquire and dispense medication. Average cost is based on the results of the pharmacy dispensing and acquisition cost surveys.

² "Average Payment" refers to Kentucky Medicaid payment (dispensing fee and ingredient allowance) to the pharmacy inclusive of any applicable co-payments.

The results shown in Table 6.2 are based upon the costs and dispensing patterns of an "average" pharmacy. As one would expect, the level of profitability on Kentucky Medicaid pharmacy reimbursement tends to vary among pharmacies. This variability is largely based on differences in dispensing cost rather than differences in the ability to acquire discounts on the purchase of pharmaceutical ingredients. Based on the results of the dispensing and acquisition cost survey, it is estimated that Kentucky Medicaid pharmacy reimbursement fully covers the

dispensing and acquisition cost of the significant majority (approximately 97%) of Medicaid participating pharmacies.

Conclusions

Overall pharmacy profitability on prescription dispensing activities is approximately 7% of prescription revenues or \$3 per prescription. Profitability on prescriptions reimbursed by Kentucky Medicaid tends to be slightly higher than the average, 12% or \$5 per prescription. In contrast to Kentucky Medicaid pharmacy reimbursement rates, the payments that most pharmacies accept from other third parties offer much lower margins – typically in the range of 3% to 5%. Margins on cash paying customers are higher than those realized from Kentucky Medicaid payment rates and typically can range upwards to approximately 15%.

Appendix A. Development of the Dispensing Cost Survey Methodology

The methodology used for conducting the survey of pharmacy dispensing costs is presented in Chapter 3 of the report. The following tables provide background information regarding the development of the methodology and references to other surveys and publications which provide discussion regarding the calculation of pharmacy dispensing cost and related matters.

Table A.1 Academic References to Pharmacy Dispensing Cost

Gagnon, Jean Paul, "Prescription Department Cost Analysis." <i>Pharmacy Management</i> 151 (Sept. – Oct., 1979): 235-40.
Carroll, N.V. "Costs of Dispensing Private-Pay and Third-Party Prescriptions in Independent Pharmacies." <i>Journal of Research in Pharmaceutical Economics</i> 1991;3(2):3-16.
Carroll, N.V. "Forecasting the Impact of Participation in Third-Party Prescription Programs on Pharmacy Profits." <i>Journal of Research in Pharmaceutical Economics</i> 1991;3(3):3-23.
Adams, E. Kathleen, Ph. D. et al., "State Medicaid Pharmacy Payments and Their Relation to Estimated Costs." <i>Health Care Financing Review</i> , Spring 1994, Vol. 15 No. 3, pp. 25-42.
Lamphere-Thorpe, JoAnn, M.S. et al, "Who Cares What It Costs to Dispense a Medicaid Prescription?" <i>Health Care Financing Review</i> , Spring 1994, Vol. 15 No. 3, pp. 9-24.
Huey, Cheryl; Jackson, Richard; Pirl, Margaret, "An Analysis of the Impact of Third-Party Prescription Programs on Community Pharmacy." <i>Journal of Research in Pharmaceutical Economics</i> 1995;6(2):57-72
Wen, Lonnie k. et al., "A Survey of Operational Costs Incurred by Home Infusion Pharmacies." <i>Infusion</i> , May 1997 pp. 44-51.
Schommer, Jon et al., "1999 Minnesota Pharmacist Compensation and Labor Survey: Part 1, Pharmacists' Hourly Wages and Benefits." University of Minnesota College of Pharmacy, 1999.
Shireman, Theresa I., Kreling, David H.; "Impact of Third-Party Penetration and Competition on Community Pharmacies' Profits." <i>Journal of Research in Pharmaceutical Economics</i> , 2000, Vol. 10, No. 1, pp. 7-28.
Lipowski, Earlene et al., "Time Savings Associated With Dispensing Unit-of-Use Packages." <i>Journal of the American Pharmaceutical Association</i> , 2002, 42(4):577-581.
Ganther, Julie M., Ph. D., R.Ph., "Third Party Reimbursement for Pharmacist Services: Why Has It Been So Difficult to Obtain and Is It Really the Answer for Pharmacy?" <i>Journal of the American Pharmaceutical Association</i> , 2002, 42(6):875-879.
Farris, Karen B., BS Pharm, Ph.D. et al., "Outcomes-based Pharmacist Reimbursement: Reimbursing Pharmacists for Cognitive Services." <i>Journal of Managed Care Pharmacy</i> , September/October 2002, Vol. 8, No. 5, pp. 383-391.
Academy of Managed Care Pharmacy, "2002 White Paper on Pharmacy Technicians." <i>Journal of Managed Care Pharmacy</i> , January/February 2003, Vol 9, No. 1, pp. 72-83.

Table A.2 Cost Allocation Methodologies Commonly Used in Health Care Settings

Type of Cost	Statistical Basis Used for Pharmacy Survey	Statistical Basis Used in Medicare Cost Reporting
Capital Related (e.g. depreciation, rent, repairs, real estate taxes)	Square Footage	Square Footage
Utilities	Square Footage	Square Footage
Interest, Insurance, telephone, supplies, accounting and legal fees	Revenue	Revenue, Accumulated Costs
Labor	Hours Worked	Hours Worked

Table A.3 Pharmacy Dispensing Cost Surveys Using Similar Cost Allocation Methodologies

Report Date	Title of Published Report	Organization / Individuals Performing Survey	Survey Sponsor
May 1990	An Assessment of Chain Pharmacies' Cost of Dispensing a Third Party Prescription	Pharmaceutical Economics Research Center; School of Pharmacy and Pharmaceutical Sciences; Purdue University; Kenneth W. Schafermeyer; Stephen W. Schondelmeyer; Joseph Thomas III	National Association of Chain Drug Stores
March 1991	Reimbursement for Pharmaceutical Services in Missouri	University of Missouri – Kansas City School of Pharmacy - Ashok K. Gumbir, Ph. D.; Johnny L. Anderson, Ph. D. (candidate)	Missouri Department of Social Services – Division of Medical Care
1992	"Who Cares What It Costs to Dispense a Medicaid Prescription?" Health Care Financing Review, Spring 1994, Vol. 15 No. 3, pp. 9-24.	University of North Carolina at Chapel Hill - JoAnn Lamphere-Thorpe, M.S., William P. Johnston, Ph.D., Kerry E. Kilpatrick, Ph.D., and G. Joseph Norwood, Ph.D.	North Carolina Division of Medical Assistance
June 1994	Pharmacy Reimbursement Rates: Their Adequacy and Impact on Medicaid Beneficiaries	E. Kathleen Adams, Ph. D.; Norma Gavin; SysteMetrics; David H. Kreling, Ph. D.	Health Care Finance Administration

(Additionally, Myers and Stauffer has performed approximately 40 studies of pharmacy dispensing cost in 17 states.)

Appendix B. Summary of Pharmacy Attributes

A number of pharmacy attributes were collected on the cost survey. Many of these attributes were used during the review of the cost survey, and also allowed for an analysis of the variations in cost. In the following table, many of these attributes are summarized for informational purposes without any discussion as to their relationship to dispensing cost.

Table B.1 Summary of Pharmacy Attributes

Attribute	Number of Pharmacies Responding Affirmatively	Average for Pharmacies Responding Affirmatively
Provision of Delivery Services	156	32% of prescriptions
Provision of Delivery Services for Medicaid Recipients	147	38% of Medicaid prescriptions
Provision of Mail Order Services	104	7% of prescriptions
Provision of Unit Dose Services	65	49% (54% of unit dose prescriptions were prepared in the pharmacy; 46% were purchased already prepared from a manufacturer)
Provision of Compounding Services	206	4%
Provision of Prescriptions to Nursing Homes	67	43%
Provision of Prescriptions to Board and Care Facilities	42	11%
Provision of Specialty Services (e.g. intravenous, infusion, respiratory or biotech prescriptions)	26	48% of prescription sales (15 pharmacies had specialty prescription sales greater than 5% of total prescription sales – for these 15 pharmacies, the average was 82%)
Provision of 24 Hour Emergency Services	148	N/A
Hours Open Per Week	377	63 hours
Years Open at Current Location	372	18 years
Allows sales on credit	142	N/A
Percent of Prescriptions to Third Party Payers	371	82%

Appendix C. Results from Previous Acquisition Cost Studies

The following table displays results from acquisition cost surveys performed by Myers and Stauffer LC and the Office of the Inspector General (OIG).

Table C.1 Results from Previous Studies of Pharmaceutical Acquisition Cost

Year of Study	Study Location	Source	Average Discount from AWP	
			Single Source Drugs	Multi-Source Drugs
1990	Wyoming	Myers and Stauffer LC	16.0%	N/A
1996	North Carolina	Office of the Inspector General – U.S. Department of Health and Human Services _A	16.9%	45.2%
1996	California	Office of the Inspector General – U.S. Department of Health and Human Services _B	17.5%	41.4%
1997	Eleven-State National Sample	Office of the Inspector General – U.S. Department of Health and Human Services _C	10% to 20% _D	42.5%
1998	Arkansas	Myers and Stauffer LC	17.3%	62% (Drugs with an Federal Upper Limit (FUL)) _E
1998	Kentucky	Myers and Stauffer LC	19.2%	72% (Drugs with an FUL)
1998	Wyoming	Myers and Stauffer LC	17.0%	73% (Drugs with an FUL)
1999	Utah	Office of the Inspector General – U.S. Department of Health and Human Services (in association with the Utah Dept. of Health) _F	18.4%	60.1%
1999	Louisiana	Myers and Stauffer LC	17.4%	70% (Drugs with an FUL) / 33% (Drugs without an FUL)
1999	Kentucky	Myers and Stauffer LC	17.1%	62% (Drugs with an FUL) / 31% (Drugs without an FUL)

Year of Study	Study Location	Source	Average Discount from AWP	
			Single Source Drugs	Multi-Source Drugs
2000	Kentucky	Myers and Stauffer LC	18.1%	79% (Drugs with an FUL) / 39% (Drugs without an FUL)
2001	Arkansas	Myers and Stauffer LC	17.8%	82% (Drugs with an FUL) / 46% (Drugs without an FUL)
2001	Eight-State National Sample	Office of the Inspector General – U.S. Department of Health and Human Services ₆	21.84%	N/A
2001	Kentucky	Myers and Stauffer LC	18.3%	84% (Drugs with an FUL) / 56% (Drugs without an FUL)
2001	California	Myers and Stauffer LC	17.2%	87% (Drugs with an FUL) / 43% (Drugs without an FUL)

- A. Office of the Inspector General (OIG) Report No, A-06-05-00071, September 4, 1996.
- B. Office of the Inspector General (OIG) Report No, A-06-95-00062, May 31, 1996.
- C. Office of the Inspector General (OIG) Report No, A-06-97-0011, August 4, 1997. The states in the sample were California, Delaware, District of Columbia, Florida, Maryland, Missouri, Montana, Nebraska, New Jersey, North Carolina, and Virginia.
- D. The OIG study did not specifically address the issue of brand name drug product acquisition cost, but rather cited a June 1996 study by *Barron's*.
- E. The Myers and Stauffer studies differentiate multi-source drug products by the existence of a federal upper limit (FUL) price.
- F. Office of the Inspector General (OIG) Report Nos. A-06-99-00035 and A-06-99-00036.
- G. Office of the Inspector General (OIG) Report Nos. A-06-00-00023. The states in the sample were Montana, Florida, Colorado, Indiana, Texas, Washington, West Virginia, and Wisconsin. Based on a preliminary review of the OIG report, Myers and Stauffer has concerns regarding the classification drugs deemed to be "brand" for purposes of the OIG report. Accordingly, caution is advised in the interpretation of the OIG's findings.

Appendix D. Acquisition Cost of Multi-Source Drugs

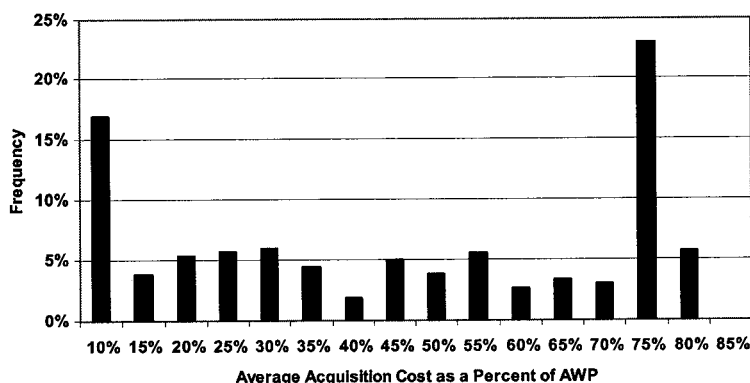
For analysis purposes, multi-source drug products were grouped in two categories: drugs with an FUL price and drugs without an FUL price. The distributions of acquisition cost for these two groups are significantly different.

1) Multi-Source Drug Products with No FUL Prices

In general, the acquisition cost as a percent of the AWP for multi-source products without federal upper limits are similar to those of single source drugs. However, there are a significant number of products purchased with acquisition costs much lower than the 78% to 80% range observed for single source drugs. The analysis resulted in the following findings (referring to observations from external invoices):

- The average acquisition cost by pharmacy was 57.7% of the AWP (see Exhibit 18).
- Of the 438 products observed, the weighted average acquisition cost was of 55.3% of the AWP (see Exhibit 18).
- Many drug products fell in the 78% to 80% acquisition cost range (similar to single source drugs) with smaller numbers of drugs having acquisition costs as low as 10% of the AWP (see Chart D.1).

Chart D.1 Acquisition Cost by Drug Product
Multi Source Drug Products without an FUL Price
(Based on External Invoices Only)



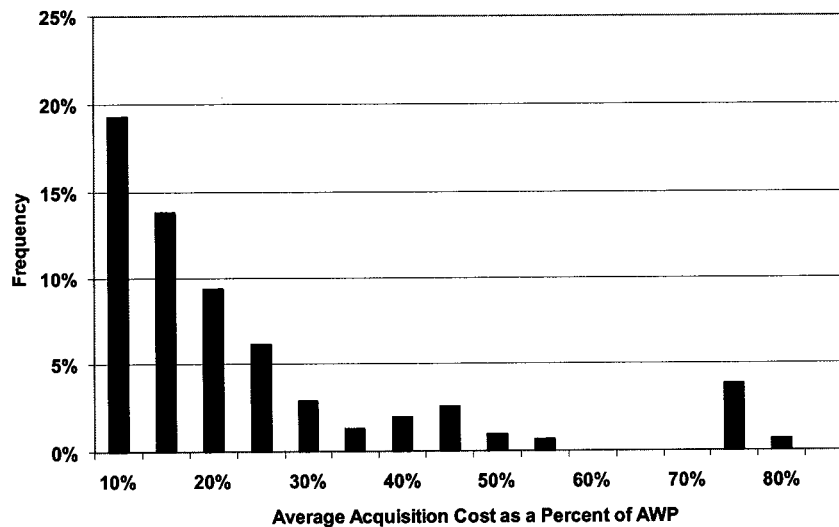
2) Multi-Source Drug Products with FUL Prices

The acquisition costs of multi-source drug products with an FUL price are distributed in a significantly different manner from multi-source products without

an FUL. Observations based on analysis of these acquisition costs (from external invoices) follow:

- The average acquisition cost by pharmacy was 17.3% of the AWP (see Exhibit 19).

Chart D.2 Acquisition Cost by Drug Product
Multi Source Drug Products with an FUL Price
 (Based on External Invoices Only)



- There were 309 drug products matched with invoice purchase line items. Acquisition cost as a percent of the AWP for these products had a weighted average acquisition cost of 15.2% of the AWP (see Chart D.2 and Exhibit 19).
- The average acquisition cost as a percent of the AWP for most of these multi-source drugs was in the 10% to 30% range. There were some products in the range of 80% and higher. Products in this range tended to be innovator products as opposed to the less expensive, generic versions of these drugs.

The acquisition cost of these multi-source products was also analyzed as a percentage of their FUL price. The following findings resulted from that

Effectiveness of FUL and SMAC Prices

The pharmacy program currently reimburses the lesser of the Estimated Acquisition Cost (EAC – currently AWP minus 12%) or the FUL/SMAC price.

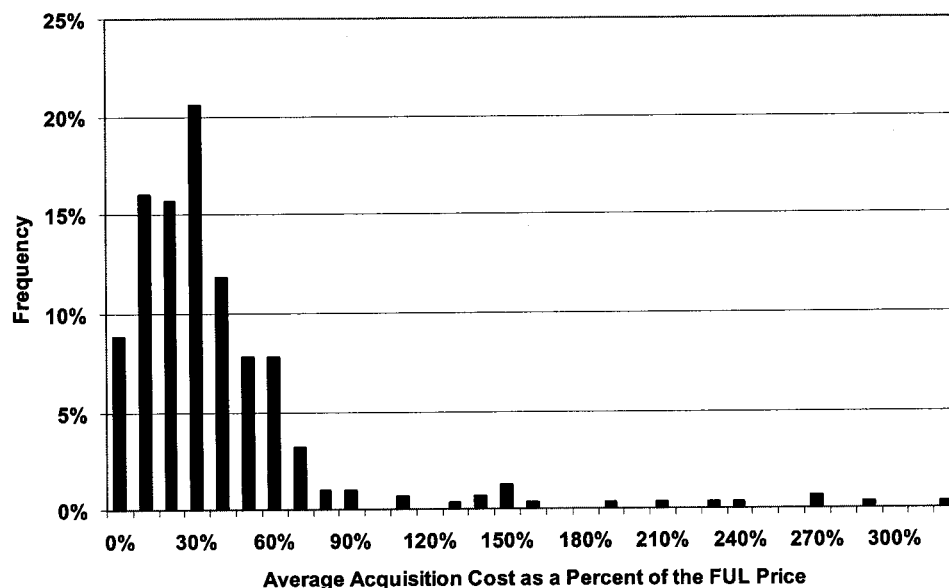
For calendar year 2002, approximately \$85 million in savings was obtained by reimbursing the FUL price instead of the EAC price. Significant savings were realized on the drugs ranitidine, fluoxetine and albuterol.

SMAC prices were implemented in April 2003 and should also produce savings, although to a less significant degree than savings realized by FUL prices. Annualized savings incurred using SMAC prices are estimated to be approximately \$12 million.

analysis:

- Acquisition cost by pharmacy as a percent of the FUL price was an average of 37.8% of the FUL price (see Exhibit 20).
- The average acquisition cost as a percent of FUL exceeded 100% for some pharmacies. These averages were typically highly skewed by the purchase of a brand name product for which a generic alternative is available.
- For individual drug products, acquisition cost as a percent of the FUL was a weighted average of 40.4% of the FUL price (see Exhibit 20).
- The acquisition cost as a percent of the FUL price for most of these multi-source products was in the 10% to 50% range. A small number of products fell in the range of 100% or higher (see Chart D.3). Products in this range tended to be innovator products as opposed to the less expensive, generic versions of these drugs.

Chart D.3 Acquisition Cost by Drug Product
Multi Source Drug Products with an FUL Price
 (Based on External Invoices Only)



3) Multi-Source Drugs with a State Maximum Allowable Cost (SMAC) Price

The analysis of multi-source drugs included examining the acquisition cost of drugs as a percent of the SMAC price. Of the top 1,000 multi-source drugs that were selected for analysis in the acquisition cost study, a relatively small proportion were observed in the invoice data keyed. In order to enhance the number of observations, ALL drugs with a SMAC price which were observed in the keyed invoice data were included in an analysis that compared the actual acquisition cost to the SMAC price. In total, 458 drug products were observed

(on invoices from external wholesalers), including 307 products that were not in the top 1,000 multi-source drug list. The following observations (from external invoices) were made:

- For the 66 pharmacies with one or more observations, average acquisition cost as a percent of the SMAC price was 75.7% (see Exhibit 21).
- For individual drug products, acquisition cost as a percent of the SMAC was a weighted average of 75.4% of the SMAC price (see Chart D.4 and Exhibit 21).
- The acquisition cost as a percent of the SMAC price for most of these multi-source products was in the 5% to 60% range. A small number of products fell in the range of 100% or higher (see Chart D.4). Products in this range tended to be innovator products as opposed to the less expensive, generic versions of these drugs.

Chart D.4 Acquisition Cost by Drug Product
Multi Source Drug Products without an FUL Price
 (Based on External Invoices Only)

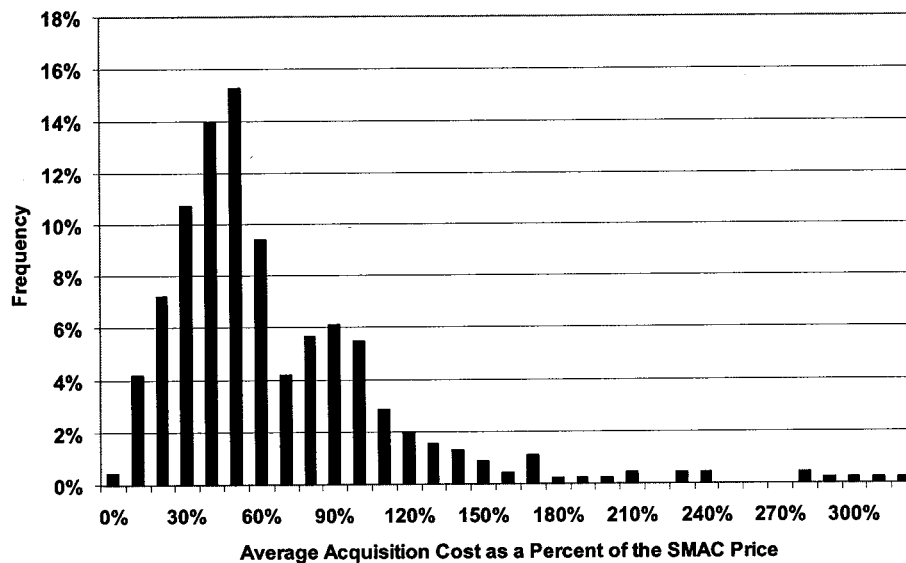


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Agency Use Only

Kentucky Medicaid Pharmacy Cost Report

Medicaid Provider No.

Return Completed Forms to:
Myers and Stauffer LC
420 Nichols Road
Kansas City, Missouri 64112


Myers and Stauffer LC
Certified Public Accountants

2003

Under Contract with the Kentucky Department for Medicaid Services

ROUND ALL AMOUNTS TO NEAREST DOLLAR OR WHOLE NUMBER

Please Complete and return by **July 15, 2003**

Instructions are enclosed. Please call toll free (800) 374-6858 if you are having difficulty completing this report.

Name of Pharmacy _____ Telephone No. () _____
Street Address _____ Fax No. () _____
City _____ County _____ State _____ Zip Code _____

DECLARATION BY OWNER AND PREPARER

I declare that I have examined this cost report including accompanying schedules and statements, and to the best of my knowledge and belief, it is true, correct, complete, and in agreement with the related Books or Federal Income Tax Return, except as explained in the Reconciliation. Declaration of preparer (other than owner) is based on all information of which preparer has any knowledge.

Your Signature	Print/Type Name	Title/Position	Date
Preparer's Signature (other than owner)		Title/Position	Date
Preparer's Street Address		City and State	Zip Phone Number

SECTION IA -- PHARMACY ATTRIBUTES

List the total number of all prescriptions dispensed during the fiscal year as follows:

(a) **New** _____ **Refill** _____ **Total** _____

(b) **Type of Ownership**
 1. ☐ Individual 2. ☐ Corporation 3. ☐ Partnership 4. ☐ Other

(c) **Location**
 1. ☐ Medical Office Building 2. ☐ Shopping Center
 3. ☐ Separate or downtown 4. ☐ Other (specify) _____

(d) **Ownership Affiliation**
 1. ☐ Independent (1-10 Units) 2. ☐ Chain (11 or more units)
 3. ☐ Institutional (provide service to long-term care facilities only)

(e) What is the approximate percent of your prescriptions dispensed to long-term care facilities? _____

(f) What is the approximate percent of your prescriptions dispensed to board and care facilities? _____

(g) Do you or does a related party own your building?
 1. ☐ Yes 2. ☐ No

Exhibit 1

Page 2
(4/2003)



(h)	Do you dispense in anything other than traditional packaging to long-term care facilities? If yes, indicate how: 1. <input type="checkbox"/> Unit Dose 2. <input type="checkbox"/> Modified Unit Dose (Bingo cards/blister packs) 3. <input type="checkbox"/> Both 4. <input type="checkbox"/> No Unit Dose What is the approximate percent of all prescriptions dispensed in unit dose packaging? _____%
(i)	If you checked box 1, 2, or 3 of (h), what percent of unit dose packaging is: 1. Purchased from manufacturers _____% 2. Prepared in the pharmacy _____%
(j)	What percent of total prescriptions filled are delivered? _____%
(k)	What percent of Medicaid prescriptions filled are delivered? _____%
(l)	Are you presently providing home IV or infusion therapies and/or enteral nutrition therapy? 1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No If yes, what is the dollar amount of your sales for those Rx's? \$ _____
(m)	What is the approximate percent of your prescriptions dispensed that are compounded? _____%
(n)	How many hours per week is your pharmacy open? _____ Hours
(o)	How many years has a pharmacy operated at this location? _____ Years
(p)	Do you provide 24-hour emergency services for pharmaceuticals? 1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No
(q)	What is the approximate percentage of prescriptions dispensed with third party reimbursement (including Medicaid)? _____%
(r)	Do you allow prescription sales on credit? 1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No
(s)	What is the amount of interest expense included on line 14 (of page 3) that is for prescriptions drug purchases and/or prescription drug inventory? If none, please record zero. \$ _____ What was the value of the prescription drug inventory at the end of the fiscal year? \$ _____
(t)	What was the balance of any notes payable at the end of the fiscal year? \$ _____ What was the balance of any mortgage payable at the end of the fiscal year? \$ _____
(u)	Does your pharmacy dispense prescriptions by mail? 1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No If yes, please complete the following, otherwise skip to Section IB. What is the approximate percentage of the total number of prescriptions that are dispensed by mail? _____%

SECTION IB -- OTHER INFORMATION

Please list any additional information you feel contributes significantly to your cost of filling a prescription. Also, if you have a significant amount of non-retail sales of drugs at cost, please note the amount and if it is included in line (1), column (1) on page 3.

Exhibit 1

Page 3
(4/2003)



Round all amounts to nearest dollar or whole number.

SECTION IIA -- SALES AND FLOOR SPACE

	Prescription Drugs Only	Total Store Including Prescription Drugs	Line No.
Sales (Excluding Sales Tax)			(1)
Cost of Goods Sold			(2)
Floor Space (Retail area only). Please measure. Do not estimate.	Sq. Ft.	Sq. Ft.	(3)

SECTION IIB -- OVERHEAD EXPENSES

Complete this section by referring to the line numbers in the left columns that correspond to federal income tax return lines or use internal financial statements.

The following information is from tax / fiscal year ending.....	____ / ____ / ____	(4)
---	--------------------	-----

2001 and 2002 Tax
Form Number

1040C	1065	1120	1120S		Total Expense	Agency Use Only	Line No.
13	16a	20	14a	Depreciation (this fiscal year only - not accumulated).....			(5)
23	14	17	12	Taxes (a) Personal Property Taxes Paid.....			(6)
				(b) Real Estate Taxes.....			(7)
				(c) Payroll Taxes.....			(7a)
				(d) Sales Taxes.....			(7b)
				(e) State Income Tax (Corporations Only).....			(8)
				(f) Any other taxes (specify each type and amount).....			(9)
20b	13	16	11	Rent (a) Building Rent (See Instructions).....			(10)
20a	13	16	11	(b) Equipment and Other.....			(11)
21	11	14	9	Repairs.....			(12)
15	20	26	19	Insurance (a) Workers Comp. and Employee Medical.....			(13)
15	20	26	19	(b) Other.....			(14)
16a&b	15	18	13	Interest.....			(15)
27	20	26	19	Legal and Professional Fees.....			(16)
27	20	26	19	Dues and Publications.....			(17)
9	12	15	10	Bad Debts (this fiscal year only - not accumulated).....			(18)
		19		Charitable Contributions (Corporations Only).....			(19)
25	20	26	19	Telephone.....			(20)
25	20	26	19	Heat, Water, Lights, Sewer, Trash and other Utilities.....			(21)
18&22	20	26	19	Operating and Office Supplies (Exclude Rx containers and labels)...			(22)
8	20	23	16	Advertising.....			(23)
27	20	26	19	Rx Computer Expenses (See Instructions).....			(24)
10	20	26	19	Rx Delivery Expenses (See Instructions).....			(25)
27	20	26	19	Rx Containers and Labels (See Instructions).....			(26)
Various	18+	24+	17+	Other Expenses (Not included elsewhere).....			(27)
	19+	25+	18+	(Attach Schedule if necessary).....			(28)
	20	26	19	(Specify each item and corresponding amount).....			(29)
Total Overhead Expenses [Add Line (5) through Line (29)]							(30)

SECTION IIC -- PERSONNEL COSTS -- List each person separately (except Line 44). Attach schedule if necessary.

					Average Weekly Hours			
	Check if RPh	Estimate Percent of Rxs Dispensed by Each RPh	Annual Salaries and/or Drawings	AGENCY USE ONLY	No. Weeks Employed This Fiscal Year	Total Store Including Rx Dept.	Rx Dept. Related Duties Only	Line No.
Owners, Individual Proprietors, Partners, and Stockholders.....								(31)
								(32)
								(33)
Employee and Relief Pharmacists.....								(34)
								(35)
								(36)
								(37)
Interns.....								(38)
	Subtotal:	100%	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX	(38a)
Rx Delivery.....	XXX	XXXXXXXXXX						(39)
	XXX	XXXXXXXXXX						(40)
Other Employees with Time in Rx Dept. (Including Rx Technicians).....	XXX	XXXXXXXXXX						(41)
	XXX	XXXXXXXXXX						(42)
	XXX	XXXXXXXXXX						(43)
All Non-Rx Employees.....	XXX	XXXXXXXXXX			XXXXX	XXXXX	XXXXX	(44)
TOTALS.....	XXX	XXXXXXXXXX			XXXXX	XXXXX	XXXXX	(45)

SECTION IID -- RECONCILIATION WITH TAX RETURN (OR BOOKS)

1999 and 2000 Tax Form Number			
1040C	1065	1120	1120S

Column 1	Column 2
Cost Report Amounts	Books or Tax Return Amounts

28	21	27	20	Total Expenses per Tax Return / Books (Circle one used).....		(46)
				Enter Amount from Line (30).....		(47)
				Enter Amount from Line (45).....		(48)
				Total Expenses per Cost Report [Add Lines (47) and (48)].....		(49)
				Specify Items with Amounts that are on Cost Report but not on Tax Return (or Books).....		(50)
						(51)
				Specify Items with Amounts that are on Tax Return (or Books) but not on this Cost Report.....		(52)
						(53)
				Total [Add Lines (46) to (53)] Column Totals Should be Equal..		(54)

Survey
Date

SECTION III -- KENTUCKY PHARMACY PRESCRIPTION CHARGES SURVEY

New Prescriptions Only - Exclude Compounded Rx's

Exhibit 1
Medicaid
Provider No.

Please review the instructions prior to completing this form.

Line Number	Rx Number	Payer Code See Codes Below	Drug Name, Strength	NDC Number			Quantity Filled Use Medicaid Units	Actual Selling Price (amount received)
				Mfr	Drug	Pkg		
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

Payer Codes: Cash - C; Medicaid (Fee for Service) - MF; Medicaid Managed Care - MM; CHAMPUS - CH; Workers Compensation - W; Private Insurance - P; Other - O

 **Myers and Stauffer**
Certified Public Accountants

Survey
Date

SECTION III -- KENTUCKY PHARMACY PRESCRIPTION CHARGES SURVEY

Exhibit 1
Medicaid
Provider No.

New Prescriptions Only - Exclude Compounded Rx's

Please review the instructions prior to completing this form.

Line Number	Rx Number	Payer Code See Codes Below	Drug Name, Strength	NDC Number				Quantity Filled Use Medicaid Units	Actual Selling Price (amount received)
				Mfr	Drug	Pkg			
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									
46									
47									
48									
49									
50									

Payer Codes: Cash – C; Medicaid (Fee for Service) – MF; Medicaid Managed Care – MM; CHAMPUS – CH; Workers Compensation – W; Private Insurance – P; Other – O

Myers and Stauffer, Inc.
Certified Public Accountants

Kentucky Medicaid Pharmacy Cost Report

Instructions

Survey Forms by Myers and Stauffer LC
 Certified Public Accountants
 420 Nichols Road
 Kansas City, Missouri 64112
 800-374-6858

Under Contract with the Kentucky Department for Medicaid Services

PURPOSE: The purpose of this survey is to determine the cost of dispensing prescriptions in the Commonwealth of Kentucky.

WHO SHOULD FILE

Except for the following, all Medicaid pharmacies that are selected for the survey should file this cost report:

- ☐ New pharmacies that were in business less than six months during the reporting period
- ☐ Pharmacies with a change of ownership that resulted in less than six months in business during the reporting period

If your pharmacy meets one of the exceptions listed above, please check the box next to the explanation describing your business, write your pharmacy name and provider number, sign your name, and return only this page in the enclosed envelope.

Medicaid Provider No.	Provider Name	Phone No.	Signature of Owner
-----------------------	---------------	-----------	--------------------

GENERAL INSTRUCTIONS

If any assistance is needed in completing this survey, please call toll-free (800) 374-6858. Please complete these forms using your most recent fiscal year ending on or before December 31, 2002 and **return them by July 15, 2003**. Most retail pharmacies can complete these survey forms by using their most recent federal income tax return. Most expense items requested can be transferred directly from a line on the tax return to a line on the cost report. Line reference numbers of four tax forms are listed on the left side of the cost report. Simply locate the column for your tax form.

If you prefer, send us a copy of your income tax return (Form 1065, 1120, 1120S, or Schedule C of Form 1040 including supporting schedules) or your financial statements and we will complete the overhead expenses, Section IIB, Page 3 and Section IID, Page 4, for you. **You will still need to fill in the remaining sections of the cost report.** If you send a copy of your tax return, please identify any expenses that are 100% Rx-Department expenses such as continuing education, and identify any expenses that are totally non-Rx Department expenses such as fountain expenses, etc. By sending any of these tax forms, you will not be providing us with any information other than that requested if you completed the survey yourself. We will destroy the tax forms after entering the information on the survey.

Please remember to round all amounts to the nearest dollar or whole number.


Myers and Stauffer LC
 Certified Public Accountants

Kentucky Medicaid Pharmacy Cost Report – Instructions

Retail Chain Pharmacies

Expenses incurred by chain pharmacies such as administration, central operating, or other general expenses should be allocated to individual units. Warehousing expenses must be either separately identified or included in cost of goods sold. Methods of allocation must be reasonable and conform to generally accepted accounting principles. Please explain any allocation procedures used. Allocated costs should be clearly identified and entered on lines 27, 28 and/or 29.

SECTION IA --- PHARMACY ATTRIBUTES

The information gathered from your answers to these questions will be analyzed to determine its relationship to your cost of dispensing a prescription. You may have to provide estimates for some answers; please estimate as carefully and accurately as possible.

- Line (a)** **“Prescriptions Dispensed.”** Please report the total number of all prescriptions filled **during the fiscal year** of the costs reported on pages 3 and 4 of this cost report. This information may be kept on a daily or monthly log or on your computer. If you keep no record of the number of prescriptions you fill, the amount may be estimated using the following method. (1) Often your Rx numbering system may be used to estimate new Rx's. Subtract the Rx number of the first prescription filled in your fiscal year from the Rx number of the last prescription filled. (2) Take a sample over several days showing the number of refill prescriptions and new prescriptions. Divide the number of refills by the number of new prescriptions in your sample. Multiply that amount times the number of new prescriptions determined in (1) above to estimate the number of refill prescriptions for your fiscal year.

SECTION IIA --- SALES AND FLOOR SPACE

- Line (1)** **Please list total store sales excluding sales tax.** Total store sales and cost of goods sold are shown on the federal income tax return. If there is no separate record of prescription drug sales, estimate it as accurately as possible. Sales of prescription drug items should not include nonprescription OTC's, durable medical equipment, or other nonprescription items. One method to estimate sales of prescription drug items is to use your sales tax return. If Rx cost of goods sold is not readily available, leave that line blank.
- Line (3)** Since **floor space** will be used in allocating expenses, accuracy is important. When measuring the total store, include only the retail area and exclude any storage area, i.e., basement, attic, off-the-premises areas, or freight in-out areas. When measuring the Prescription Department, exclude patient waiting area and prescription-related office. These should be included in total store area. A factor is added to the Prescription Department area to account for both waiting and office space.

SECTION IIB --- OVERHEAD EXPENSES

[TAX RETURN MAY BE SUBSTITUTED.]

Overhead costs reported on the cost report must be resulting from arms-length transactions between nonrelated parties. Related parties include, but are not limited to, those related by family, by business or financial association, and by common ownership or control. **The most common non-arms-length transaction involves rental of property between related parties. The only allowable expense of such transactions for cost determination purposes would be the actual costs of ownership (depreciation, taxes, interest, etc., for the store area only). The rental amount will be disallowed. Please show this as a reconciling item in Section IID.**

Kentucky Medicaid Pharmacy Cost Report – Instructions

- Line (6) & (7)** Include only personal property taxes or real estate taxes paid on property used in this pharmacy's business.
- Line (7a)** Include the employer's share of FICA and Medicare taxes, and state and federal unemployment taxes.
- Line (10)** Include only rent that applies to the store. **Report only rental expense incurred by transactions between nonrelated parties. See the first paragraph of this section for expenses allowed in lieu of rent paid to a related party.**
- Line (22)** Include office and operating supplies. If prescription containers and labels are included in your supplies, please exclude them from this line and show them on line (26).
- Line (24)** **Rx Computer Expenses.** Include expenses for a computer that is used only in the Rx Department. These expenses should not be duplicated on any other line. If your computer is used by other departments of the pharmacy, do not enter anything on this line and enter computer expenses on line (29).
- Line (25)** **Rx Delivery Expenses.** If you deliver Rx items only, include expenses paid for your delivery vehicle here, including expenses paid to a delivery service for delivery of Rx items. These expenses should not be duplicated on any other line. If your delivery vehicle is used by other departments of the pharmacy or for miscellaneous purposes, do not enter anything on this line and enter delivery expenses on line (29).
- Line (26)** **Rx Containers and Labels.** The cost of prescription containers and labels should be included here if separately identified as "other deductions" on your federal income tax return. If this expense is included in cost of goods sold on your federal income tax return and if your accounting records are such that this figure is difficult to determine, leave this line blank. An allowance will be made for Rx containers and labels based on your prescription volume.
- Lines (27)-(29)** On these lines identify any non-labor expenses not already included on your cost report but listed as other deductions on your federal income tax return. **Identify each item and the amount, rather than labeling all such expenses as "miscellaneous."** If you wish, you may simply attach the schedule from your federal return which lists these expenses. Please clearly label any items that are 100% Rx-related, such as pharmacist continuing education, or that are 100% non-Rx-related, such as fountain operation expenses.

SECTION IIC --- PERSONNEL COSTS [LINES (31)-(45)]

- Lines (31)-(38) "Percent of Prescriptions Dispensed."** Please provide your best estimate of the percentage of prescriptions dispensed by each pharmacist. Notice: This column must total line 38a (100%).
- Lines (31)-(43) "Average Weekly Hours."** You may not have detailed records of where each employee worked; however, please provide your best estimate of an average or "typical" week. Column 6 should show average number of hours the employee worked per week. Column 7 should show the average number of hours per week spent performing Rx-related duties. Rx-related duties are defined as time spent filling prescriptions as well as doing the related administrative work, including ordering and stocking prescription ingredients, taking inventory, maintaining prescription files and delivering prescriptions. Pharmacists providing consultation to long-term care facilities should be identified and

Kentucky Medicaid Pharmacy Cost Report – Instructions

listed separately. Any revenue received for those consultation services should be noted in Section IB, page 2.

Lines (31)-(33) "Owners." For purposes of this study, an employee who is a stockholder in the pharmacy is considered an "Owner." All individual proprietors, partners, or stockholders should list their total drawings and/or salaries for the year. Do not show net profit as the owner's salary but **only actual drawings or salary**. For those owners who took no salary or drawings, show zero to indicate you have not overlooked this line. A salary will be allocated based on time and/or prescriptions dispensed.

Lines (39)-(43) Rx Technicians, nonprofessional, clerical, and delivery personnel who perform Rx-related duties should be listed.

Line (44) "All Non-Rx Employees." List total salaries for all employees who spend no time in Rx-related duties.

SECTION IID --- RECONCILIATION WITH BOOKS OR FEDERAL INCOME TAX RETURN

The purpose of this reconciliation is to ensure that all expenses have been included and that none have been duplicated. For example, pharmacies operating as sole proprietors will normally need to list owner's salaries, drawings, and benefits as a reconciling item. Other examples of reconciling items are the 50% meals deduction, rent paid to related party, etc.

SECTION III --- PHARMACY PRESCRIPTION CHARGES SURVEY

List the appropriate information for the first 50 NEW prescriptions dispensed on the day shown in the box in the upper left corner of the survey form. If 50 new prescriptions were not dispensed on that day, list the first new prescriptions dispensed on the following day(s) until 50 are listed. DO NOT list compounded or OTC prescriptions. Skip these and proceed to the next prescription. All other new prescriptions must be listed - including loss leaders, third party paid prescriptions, special rates, sale prices, and controlled substances. Actual selling price shown should be the amount received for the prescription. The selling price for third party prescriptions should be shown as the amount received from the third party plus any co-pay collected from the patient. Complete the Payer Code column using the following codes:

Payer Type	Code
Cash	C
Medicaid (Fee for Service)	MF
Medicaid Managed Care	MM
CHAMPUS	CH
Workers Compensation	W
Private Insurance (e.g. BC/BS, through PBM etc.)	P
Other	O

If preferred, you may send a computer generated drug listing. Please ensure all required data is included on the computer generated listing and identify any special codes used on the listing, i.e., M for Medicaid.

NOTE: For quantity filled, report the unit of issue used when requesting Medicaid prescription reimbursement.



THE SECRETARY FOR HEALTH SERVICES
COMMONWEALTH OF KENTUCKY
275 EAST MAIN STREET
FRANKFORT KY 40621-0001
(502) 564-7042

PAUL E. PATTON
GOVERNOR

MARCIA R. MORGAN
SECRETARY

May 30, 2003

Dear Pharmacy Provider:

KRS 205.561 requires the Kentucky Cabinet for Health Services to conduct a research study every three years to determine the cost of dispensing prescription medications and the cost of acquiring drugs for eligible Medicaid recipients, the current level of dispensing fee, and an estimate of additional revenues required to adequately adjust reimbursement to cover costs for pharmacies. The Cabinet is required to conduct this study and report findings to the governor and the Legislative Research Commission by October 31, 2003. The Cabinet has contracted with the firm of Myers and Stauffer, Certified Public Accountants, to conduct the study.

The information received from the study will assist in determining the Kentucky Medicaid dispensing fee. The importance of accurately and promptly completing this survey in its entirety cannot be overemphasized. The accuracy of the survey depends to a great extent on the number of completed surveys. To ensure an accurate and valid measurement of dispensing costs, please complete the survey form and return it to:

T. Allan Hansen
Myers and Stauffer LC
420 Nicholas Road
Kansas, City, Missouri 64112

"...promoting and safeguarding the health and wellness of all Kentuckians."




EQUAL OPPORTUNITY EMPLOYER M/F/D

The Cabinet and Myers and Stauffer guarantee the confidentiality of the responses. Thus, no pharmacy will be given access to another pharmacy's data. The Cabinet wants to remind you that in accordance with your Medicaid provider agreement, you are required "... to furnish the State or Federal agencies with any information requested regarding payments claimed for furnishing services..." and "... to permit representatives of the State and Federal government... the unrestricted right to examine, inspect, copy and audit all records pertaining to the provision of services furnished to Title XIX recipients".

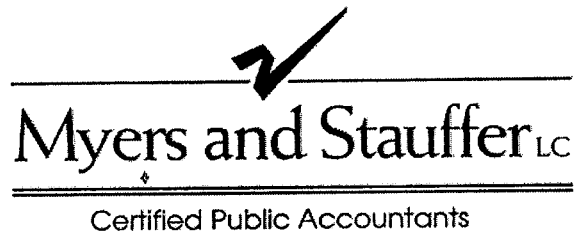
If you have any questions regarding completion of the survey, please contact Allan Hansen of Myers and Stauffer at 1-800-374-6858.

Sincerely,


Marcia R. Morgan
Secretary

MRM/deb

C: Mike Robinson, Commissioner
Troy Koch, Pharmacy Director



June 2, 2003

To: Kentucky Medicaid Pharmacy Providers

The Kentucky Department for Medicaid Services has contracted with Myers and Stauffer LC to conduct dispensing cost and acquisition cost surveys as part of the on-going process to evaluate Medicaid fees for prescription medications in the state of Kentucky. All Kentucky pharmacy providers are requested to participate in the cost survey. We have conducted previous pharmacy cost surveys in Kentucky and fifteen other states and are pleased to again be working with pharmacies in the state of Kentucky. ♪

All pharmacy providers in the state should participate in both surveys according to the following directions:

Dispensing Cost Survey

1. Complete and return the enclosed "Kentucky Medicaid Pharmacy Cost Report." Please review the survey instructions.
2. Retain a copy of the completed survey forms for your records.
3. For your convenience, we will complete a portion of the survey for you upon receipt of your business federal income tax return (Forms 1065, 1120, 1120S or Schedule C of Form 1040 and accompanying schedules). If you choose this option, you will still need to complete the following sections of the cost report prior to submission:
 - a. Pages 1 and 2 – Pharmacy attributes and other information
 - b. Page 3 – Line 1 (column 1) – prescription sales, and line 3 (columns 1 and 2) – prescription area and total store area.
 - c. Page 4 – Personnel costs – complete lines 31-45, all columns
 - d. Section III – Pharmacy Prescription Charges Survey
4. If your financial statements or tax return have not been completed for your most current fiscal year, please file a cost report using your prior year's financial statements (or tax return) and the corresponding prescription data for that year. The data will be adjusted accordingly.

Acquisition Cost Survey

1. Submit to Myers and Stauffer all drug purchase invoices from your wholesale drug supplier(s) for the dates April 1 through April 30, 2003.
2. Submit all invoices for drug purchases from brand name as well as generic pharmaceutical manufacturers and/or suppliers for the dates April 1 through April 30, 2003.
3. Please send copies of invoices. Submitted documents will not be returned.

It is very important that all pharmacies cooperate fully by filing an accurate cost report and submitting the requested drug purchase invoices.

Please submit all requested information **no later than July 15, 2003** to:

Myers and Stauffer LC
Certified Public Accountants
420 Nichols Road
Kansas City, Missouri 64112

All cost reports will be reviewed by experienced staff at Myers and Stauffer LC. If this review yields any need for additional inquiries, you will be contacted by letter or telephone. At a later date, a limited sample of pharmacies will be selected for an on-site field examination. If your pharmacy is chosen for a field examination, you will be notified.

Reports generated from this study may be used as a basis for determining future reimbursement paid under the Medicaid program. All information submitted will be held in strict confidence. If you have any questions, please call toll free at 1-800-374-6858. Your cooperation in providing the information for this study is greatly appreciated.

Sincerely,



T. Allan Hansen
Project Manager



Myers and Stauffer_{LC}

Certified Public Accountants

June 2, 2003

<<PHARMACY CHAIN NAME>>
 << CONTACT NAME>>, <<CONTACT TITLE>>
 <<ADDRESS 1>>
 <<ADDRESS 2>>
 <<CITY>>, <<STATE>> <<ZIP>>

Dear << CONTACT NAME>>,

The Kentucky Department for Medicaid Services has contracted with Myers and Stauffer LC to conduct dispensing cost and acquisition cost surveys as part of the on-going process to evaluate Medicaid fees for prescription medications in the state of Kentucky. All Kentucky pharmacy providers are requested to participate in the cost survey. We have conducted previous pharmacy cost surveys in Kentucky and fifteen other states and are pleased to again be working with pharmacies in the state of Kentucky.

All pharmacy providers in the state should participate in both surveys according to the following directions:

Dispensing Cost Survey

1. Enclosed is a listing of the names and addresses of your Kentucky pharmacies. Pharmacy information is presented as shown on the Kentucky Department for Medicaid Services records. If this list is inaccurate, please notify us.
2. Enclosed are several copies of the "Kentucky Medicaid Pharmacy Cost Report." Please review the survey instructions. Please submit a completed survey for each store on the attached list. If you will require additional survey forms, please contact Myers and Stauffer. If you would prefer to submit the data in an electronic format such as a spreadsheet, please contact us to determine an acceptable format.
3. Retain a copy of the completed survey forms for your records.
4. If you prefer, send individual income statements for each store and we will enter this information on the survey forms. All such information will be held in strict confidence and destroyed after the data is entered. You will still need to complete the following cost report sections:
 - a. Pages 1 and 2 – Pharmacy attributes and other information
 - b. Page 3 – Line 1 (column 1) – prescription sales, and line 3 (columns 1 and 2) – prescription area and total store area.
 - c. Page 4 – Personnel costs – complete lines 31-45, all columns
 - d. Section III – Pharmacy Prescription Charges Survey

5. Please describe any cost allocations used in preparing the income statement such as administrative expense, et cetera. Warehousing costs should be shown in cost of goods sold or listed separately.

Acquisition Cost Survey

1. The invoices requested below should be sent for each store on the enclosed list.
2. Submit to Myers and Stauffer all drug purchase invoices from your wholesale drug supplier(s) for the dates April 1 to April 30, 2003.
3. Submit all invoices for drug purchases from brand name as well as generic pharmaceutical manufacturers and/or suppliers for the dates April 1 to April 30, 2003.
4. Please send copies of invoices. Submitted documents will not be returned. If it is possible to send invoice data in an electronic format, please contact Myers and Stauffer to discuss an acceptable format.

It is very important that all pharmacies cooperate fully by filing an accurate cost report and submitting the requested drug purchase invoices.

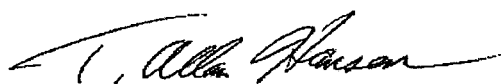
Please submit all requested information no later than July 15, 2003 to:

Myers and Stauffer LC
Certified Public Accountants
420 Nichols Road
Kansas City, Missouri 64112

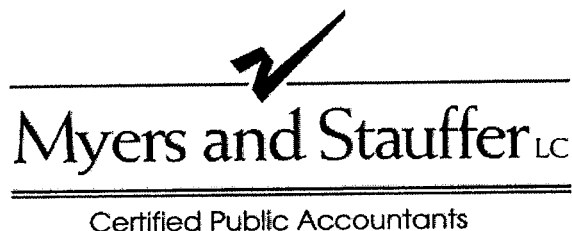
All cost reports will be reviewed by experienced staff at Myers and Stauffer LC. If this review yields any need for additional inquiries, you will be contacted by letter or telephone. At a later date, a limited sample of pharmacies will be selected for an on-site field examination. If your pharmacy is chosen for a field examination, you will be notified.

Reports generated from this study may be used as a basis for determining future reimbursement paid under the Medicaid program. All information submitted will be held in strict confidence. If you have any questions, please call toll free at 1-800-374-6858. Your cooperation in providing the information for this study is greatly appreciated.

Sincerely,



T. Allan Hansen
Project Manager



June 27, 2003

REMINDER TO PARTICIPATE IN THE PHARMACY COST STUDY

Dear Pharmacy Provider:

The Kentucky Department for Medicaid Services is currently conducting a study of pharmacy costs through its contractor, Myers and Stauffer. Recently you received a Kentucky Medicaid Pharmacy Cost Report and a request that you complete and return it to us by **July 15, 2003**.

As part of the pharmacy acquisition cost study, you were also requested to submit pharmaceutical purchase invoices from your wholesale drug supplier(s) for specific dates identified in the original survey materials packet.

It is critical to obtain a maximum number of responses in order to ensure the validity of the survey. Due to the timeline set by the Department, it is requested that we receive your response no later than the due date. If you have not yet completed the survey or submitted pharmaceutical purchase invoices, please complete and return them to us no later than **July 15, 2003**. If you have recently mailed the survey, please accept our thanks for your participation.

The pharmacy study was initiated by the Department for Medicaid Services for the purpose of determining the cost to purchase and fill Medicaid prescriptions. This is being done in accordance with state and federal regulations so that the Department can evaluate the reimbursement you receive. Since the fairness and objectivity of the final results of this cost survey are directly related to the degree of response from pharmacies in Kentucky, it is very much in your interest to participate.

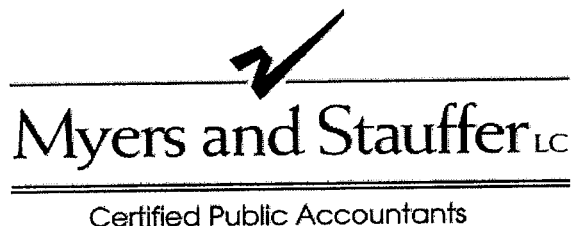
Be assured that the information you provide will be kept completely confidential. The only people with access to the individual surveys will be members of our firm.

If you need assistance in completing the survey form, please call Myers and Stauffer at 1-800-374-6858. If you have not received the survey forms or have misplaced them, please call and we will be glad to send the forms to you.

Thank you again for your assistance in this survey process.

Sincerely,

T. Allan Hansen
Project Manager



July 15, 2003

URGENT REQUEST FOR PARTICIPATION IN THE PHARMACY COST STUDY

Dear Pharmacy Provider:

The Kentucky Department for Medicaid Services is currently conducting a study of pharmacy costs through its contractor, Myers and Stauffer. Recently you received a Kentucky Medicaid Pharmacy Cost Report and a request that you complete and return it to us by **July 15, 2003**.

As part of the pharmacy acquisition cost study, you were also requested to submit pharmaceutical purchase invoices from your wholesale drug supplier(s) for specific dates identified in the original survey materials packet.

Our records indicate that we have not yet received a response from your pharmacy. If you have not yet completed the survey or submitted pharmaceutical purchase invoices, please complete and return them to us **AS SOON AS POSSIBLE**. If you have recently mailed the survey, please accept our thanks for your participation. If you have already contacted Myers and Stauffer regarding any special circumstances about your pharmacy, there is no need to do so again.

The pharmacy study was initiated by the Department for Medicaid Services for the purpose of determining the cost to purchase and fill Medicaid prescriptions. This is being done in accordance with state and federal regulations so that the Department can evaluate the reimbursement you receive. Since the fairness and objectivity of the final results of this cost survey are directly related to the degree of response from pharmacies in Kentucky, it is very much in your interest to participate.

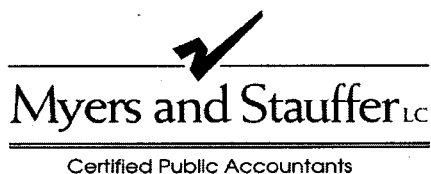
Be assured that the information you provide will be kept completely confidential. The only people with access to the individual surveys will be members of our firm.

If you need assistance in completing the survey form, please call Myers and Stauffer at 1-800-374-6858. If you have not received the survey forms or have misplaced them, please call and we will be glad to send the forms to you.

Thank you again for your assistance in this survey process.

Sincerely,

T. Allan Hansen
Project Manager



420 Nichols Road
Kansas City, Missouri 64112
(800) 374-6858
(816) 968-1970 (Fax)

July 10, 2003

0012345 / 1234
SAMPLE PHARMACY
100 MAIN STREET
ANYTOWN, KY 12345

Attention Owner/Manager:

Myers and Stauffer is working under contract with the Kentucky Department for Medicaid Services to conduct a survey of the cost of dispensing prescriptions for the Kentucky Medicaid program. After a preliminary review of the cost report you recently submitted, we have a few questions that will clarify the information you provided. Please answer the questions below and return this letter to us within one week. Make any necessary changes on the enclosed copy of your cost report and return with this form.

A postage paid envelope is enclosed. If you have any questions, please call us toll free at (800) 374-6858. Thank you for your help and cooperation.

- 1) Please provide separate amounts for the following taxes that are included in your total tax expense of \$8,055 : real estate tax _____, personal property tax _____, sales tax _____, payroll taxes _____, other taxes _____.
- 2) Please complete/reconsider lines (31) - (38), page 4, 'Percent of Prescriptions Dispensed.' This should be the percentage of your total prescriptions that were dispensed by each pharmacist during the fiscal year of this report. The column total should be 100%.
- 3) Please reconsider lines (31) - (44). You have \$74,064 in non-prescription sales and \$188,056 in non Rx labor. Does anyone included on line 44 perform any Rx support duties such as delivery or ringing up prescription sales? If so, please revise page 4.

Exhibit 9

Summary of Field Examination Findings Kentucky Medicaid

Assigned Number	Exceptions and Comments	Dispensing Cost per Prescription		Increase/ (Decrease)
		Original	Revised	
0198	Area ratio, various labor allocations	\$ 6.27	\$ 7.12	\$ 0.85
0825	Area ratio, sales ratio, various overhead allocations, various labor allocations	5.49	5.95	0.46
1598	Area ratio, overhead allocations	5.12	5.11	(0.01)
1739	Area ratio, various overhead allocations, various labor allocations	9.67	9.61	(0.06)
2234	Area ratio	6.09	6.04	(0.05)
2514	Area ratio	7.41	7.26	(0.15)
2826	Labor allocation	4.88	6.02	1.14
3378	No change	3.02	3.02	-
4688	Sales ratio	7.49	7.47	(0.02)
4967	Sales ratio, area ratio, various labor allocations	5.07	4.98	(0.09)
4997	Overhead allocations	5.80	5.83	0.03
5225	No change	3.22	3.22	-
5665	Various overhead allocations	5.20	5.37	0.17
6044	Area Ratio, various overhead allocations	4.50	4.45	(0.05)
6158	Area ratio	4.20	4.35	0.15
7431	Area ratio, sales ratio	4.90	4.91	0.01
8654	Various overhead allocations	9.43	8.66	(0.77)
9290	Area ratio, sales ratio, various labor allocations	7.04	7.10	0.06
9341	Area ratio	6.86	6.77	(0.09)
9433	Area ratio, Various labor allocations	5.12	5.06	(0.06)
Mean Change per Pharmacy				\$ 0.08
Standard Deviation				\$ 0.39
Number of Pharmacies				20
95% Confidence Interval for Mean Change Due to Field Examination				
Lower Bound				\$ (0.09)
Upper Bound				\$ 0.24

Exhibit 10

Calculation of Container Cost Per Prescription Kentucky Medicaid

Container Type	Utilization	Cost	Extended
<u>Dry</u>			
6 Dram	7%	\$ 0.1010	\$ 0.0071
8-9 Dram	36%	0.1012	0.0364
12-13 Dram	18%	0.1295	0.0233
16 Dram	14%	0.1476	0.0207
20 Dram	8%	0.1968	0.0157
30 Dram	6%	0.2300	0.0138
40 Dram	7%	0.2619	0.0183
60 Dram	4%	0.3744	0.0150
			\$ 0.1503
<u>Liquid</u>			
2 Oz.	5%	0.2778	0.0139
3 Oz.	8%	0.3727	0.0298
4 Oz.	33%	0.3710	0.1224
6 Oz.	33%	0.4535	0.1497
8 Oz.	16%	0.5511	0.0882
12 Oz.	2%	0.6054	0.0121
16 Oz.	2%	0.6369	0.0127
			\$ 0.4288
<hr/>			
Dry	0.1503	X 85%	= 0.128
Liquid	0.4288	X 15%	= <u>0.064</u>
Average Container Cost/Rx			= 0.193

Exhibit 11

**Table of Inflation Factors for Dispensing Cost Survey
Kentucky Medicaid**

Fiscal Year End Date	Midpoint Date	Midpoint Index ₁	Terminal Month Index (June 30, 2003) ₁	Inflation Factor	Number of Stores with Year End Date
1/31/01	7/31/00	172.8	183.7	1.063	1
2/28/01	8/31/00	172.8	183.7	1.063	0
3/31/01	9/30/00	173.7	183.7	1.058	0
4/30/01	10/31/00	174.0	183.7	1.056	0
5/31/01	11/30/00	174.1	183.7	1.055	0
6/30/01	12/31/00	174.0	183.7	1.056	1
7/31/01	1/31/01	175.1	183.7	1.049	0
8/31/01	2/28/01	175.8	183.7	1.045	0
9/30/01	3/31/01	176.2	183.7	1.043	1
10/31/01	4/30/01	176.9	183.7	1.038	0
11/30/01	5/31/01	177.7	183.7	1.034	0
12/31/01	6/30/01	178.0	183.7	1.032	4
1/31/02	7/31/01	177.5	183.7	1.035	1
2/28/02	8/31/01	177.5	183.7	1.035	0
3/31/02	9/30/01	178.3	183.7	1.030	3
4/30/02	10/31/01	177.7	183.7	1.034	0
5/31/02	11/30/01	177.4	183.7	1.036	3
6/30/02	12/31/01	176.7	183.7	1.040	11
7/31/02	1/31/02	177.1	183.7	1.037	1
8/31/02	2/28/02	177.8	183.7	1.033	2
9/30/02	3/31/02	178.8	183.7	1.027	17
10/31/02	4/30/02	179.8	183.7	1.022	3
11/30/02	5/31/02	179.8	183.7	1.022	0
12/31/02	6/30/02	179.9	183.7	1.021	149
1/31/03	7/31/02	180.1	183.7	1.020	173
2/28/03	8/31/02	180.7	183.7	1.017	1
3/31/03	9/30/02	181.0	183.7	1.015	2
4/30/03	10/31/02	181.3	183.7	1.013	0
5/31/03	11/30/02	181.3	183.7	1.013	2
6/30/03	12/31/02	180.9	183.7	1.015	2
Total Number of Stores					377

¹ Midpoint and terminal month indices were obtained from the Consumer Price Index, All Urban, as published by the Bureau of Labor Statistics (BLS).

Pharmacy Dispensing Cost Survey Data
Statistical Summary
Kentucky Medicaid

Exhibit 12

Characteristic	Measures of Central Tendency											
	General Statistics				Weighted Means		Medians			Excluding Outliers Beyond 3 Standard Deviations		
	n: Number of Pharmacies	Mean	Standard Deviation	Standard Error of the Mean	Weighted by Total Rx Volume	Weighted by Medicaid Rx Volume	Median	Weighted by Total Rx Volume	Weighted by Medicaid Rx Volume	Mean	Standard Deviation	Number of Pharmacies
All Pharmacies in Sample	377	8.13	10.87	0.56	6.38	6.05	6.15	5.82	5.75	6.68	3.16	369
Non Specialty Pharmacies	362	6.40	1.88	0.10	5.98	5.86	6.04	5.75	5.72	6.26	1.59	355
Specialty Pharmacies	15	49.81	33.85	8.74	19.52	18.55	40.37	9.31	9.12	49.81	33.85	15
Non Specialty Pharmacies Only												
Retail Pharmacy	338	6.35	1.87	0.10	5.82	5.54	6.02	5.66	5.40	6.18	1.51	330
Institutional Pharmacy	24	7.18	1.94	0.40	6.72	6.64	6.86	6.73	6.62	7.18	1.94	24
Does Not Disp. Unit Dose Rx's	300	6.38	1.86	0.11	5.85	5.54	6.02	5.72	5.44	6.19	1.45	292
Dispenses Unit Dose Rx's	62	6.51	2.00	0.25	6.33	6.33	6.28	6.47	6.47	6.51	2.00	62
Affiliation (Retail Only):												
Chain	177	6.61	1.49	0.11	6.13	6.11	6.27	5.87	5.95	6.50	1.28	174
Independent	161	6.07	2.18	0.17	5.41	5.28	5.53	5.11	5.04	5.86	1.74	157
Location:												
Urban	133	6.70	1.93	0.17	6.21	6.38	6.32	5.95	6.47	6.63	1.78	132
Rural	214	6.17	1.73	0.12	5.71	5.47	6.00	5.66	5.11	6.03	1.41	210
Out of State	15	7.15	2.86	0.74	6.41	7.05	6.05	5.89	6.85	7.15	2.86	15
Region:												
Region 1	17	6.09	0.98	0.24	5.94	5.78	6.04	5.95	5.85	6.09	0.98	17
Region 2	46	6.45	1.81	0.27	6.27	6.25	6.22	6.71	6.78	6.33	1.62	45
Region 3	80	6.66	2.03	0.23	6.21	6.63	6.47	5.78	7.28	6.54	1.78	79
Region 4	46	6.57	2.43	0.36	5.68	5.17	6.12	5.43	4.89	6.20	1.74	44
Region 5	70	6.39	1.57	0.19	5.99	6.19	6.09	5.93	6.15	6.23	1.25	68
Region 6	12	6.92	2.01	0.58	6.10	5.74	5.87	5.57	5.43	6.92	2.01	12
Region 7	24	6.08	1.62	0.33	5.51	5.39	5.37	5.23	5.04	6.08	1.62	24
Region 8	52	5.77	1.35	0.19	5.45	5.27	5.72	5.55	4.95	5.77	1.35	52

Pharmacy Dispensing Cost Survey Data Statistical Summary Kentucky Medicaid

Exhibit 12

	Other Statistics						
	95% Confidence Interval for Mean (based on Student t)			Percentile Ranges			Skewness
	Lower Bound	Upper Bound	t Value (with n-1 degrees of freedom)	20%	80%	Skewness	Standard Error of Skewness
Characteristic							
All Pharmacies in Sample	7.03	9.23	1.97	5.00	7.74	6.92	0.13
Non Specialty Pharmacies	6.21	6.60	1.97	4.95	7.44	1.56	0.13
Specialty Pharmacies	31.06	68.55	2.14	9.39	76.69	0.51	0.63
Non Specialty Pharmacies Only							
Retail Pharmacy	6.15	6.55	1.97	4.96	7.41	1.65	0.13
Institutional Pharmacy	6.36	8.00	2.07	4.82	8.81	0.65	0.50
Does Not Disp. Unit Dose Rx	6.17	6.60	1.97	5.07	7.39	1.81	0.14
Dispenses Unit Dose Rx	6.00	7.01	2.00	4.80	8.00	0.57	0.31
Affiliation (Retail Only):							
Chain	6.38	6.83	1.97	5.52	7.51	1.63	0.18
Independent	5.73	6.41	1.97	4.51	7.35	1.84	0.19
Location:							
Urban	6.37	7.03	1.98	5.26	8.03	1.42	0.21
Rural	5.94	6.40	1.97	4.83	7.15	1.70	0.17
Out of State	5.57	8.73	2.14	4.86	8.92	1.02	0.63
Region:							
Region 1	5.58	6.59	2.12	4.96	6.58	0.14	0.59
Region 2	5.91	6.99	2.01	4.83	7.38	0.83	0.36
Region 3	6.21	7.11	1.99	5.19	7.85	1.53	0.27
Region 4	5.85	7.29	2.01	4.84	7.59	1.88	0.36
Region 5	6.02	6.77	1.99	5.28	7.15	1.61	0.29
Region 6	5.64	8.19	2.20	5.38	8.41	1.10	0.71
Region 7	5.40	6.77	2.07	4.49	7.53	0.86	0.50
Region 8	5.39	6.14	2.01	4.70	6.69	0.36	0.34

**Pharmacy Dispensing Cost Survey Data
Statistical Summary
Kentucky Medicaid**

Exhibit 12

Characteristic	Measures of Central Tendency									
	General Statistics			Weighted Means			Medians			Excluding Outliers Beyond 3 Standard Deviations
	n: Number of Pharmacies	Mean	Standard Deviation	Standard Error of the Mean	Weighted by Total Rx Volume	Weighted by Medicaid Rx Volume	Median	Weighted by Total Rx Volume	Weighted by Medicaid Rx Volume	
<u>Non I.V. Pharmacies Only</u>										
Annual Total Rx Volume: 0 to 49,999	133	7.53	2.29	0.20	7.12	6.76	7.12	6.95	6.52	7.41 2.10 131
50,000 to 99,999	152	5.92	1.24	0.10	5.86	5.52	6.04	6.02	5.42	5.86 1.14 150
100,000 and Higher	77	5.42	1.00	0.11	5.70	5.82	5.41	5.51	5.66	5.38 0.92 76
Annual Medicaid Rx Volume:										
0 to 4,999	114	7.41	2.22	0.21	6.60	6.88	6.85	6.42	6.50	7.27 1.98 112
5,000 to 14,999	145	6.24	1.55	0.13	5.94	6.18	6.03	5.74	6.00	6.11 1.22 142
15,000 and Higher	103	5.53	1.33	0.13	5.72	5.69	5.39	5.50	5.53	5.48 1.26 102
Medicaid Utilization Ratio:										
0.0% to 9.9%	130	6.72	1.82	0.16	6.09	6.05	6.46	5.73	5.73	6.63 1.66 128
10.0% to 29.9%	146	6.34	1.86	0.15	5.91	5.95	6.04	5.72	5.69	6.18 1.46 143
30.0% and Higher	86	6.03	1.95	0.21	5.90	5.79	5.58	6.02	5.71	5.93 1.71 85
Ownership Structure:										
Sole Proprietorships	26	7.12	3.53	0.69	5.30	4.98	5.84	4.78	4.57	7.12 3.53 26
Partnerships	10	5.57	1.32	0.42	6.32	6.33	5.03	6.33	6.28	5.57 1.32 10
Corporations	317	6.37	1.67	0.09	6.01	5.88	6.07	5.77	5.66	6.25 1.46 311

Pharmacy Dispensing Cost Survey Data Statistical Summary Kentucky Medicaid

Exhibit 12

Characteristic	Other Statistics					
	95% Confidence Interval for Mean (based on Student t)			Percentile Ranges		Skewness
	Lower Bound	Upper Bound	t Value (with n-1 degrees of freedom)	20%	80%	
<u>Non I.V. Pharmacies Only</u>						
Annual Total Rx Volume: 0 to 49,999	7.14	7.92	1.98	5.52	8.86	1.13
50,000 to 99,999	5.72	6.12	1.98	4.82	6.80	0.22
100,000 and Higher	5.20	5.65	1.99	4.75	5.77	0.60
Annual Medicaid Rx Volume: 0 to 4,999	6.99	7.82	1.98	5.64	8.79	1.25
5,000 to 14,999	5.99	6.50	1.98	5.21	7.09	1.88
15,000 and Higher	5.27	5.78	1.98	4.42	6.58	0.65
Medicaid Utilization Ratio: 0.0% to 9.9%	6.41	7.04	1.98	5.28	7.99	1.26
10.0% to 29.9%	6.04	6.65	1.98	5.11	7.15	2.05
30.0% and Higher	5.61	6.45	1.99	4.51	7.42	1.50
Ownership Structure: Sole Proprietorships	5.69	8.54	2.06	4.60	9.16	1.39
Partnerships	4.63	6.52	2.26	4.42	6.73	(0.23)
Corporations	6.18	6.55	1.97	5.08	7.43	1.17

Exhibit 13

Acquisition Cost Summary by Pharmacy Single Source and Multi-Source Drug Products Kentucky Medicaid

Assigned Number	Pharmacy Type	Urban	Internal Invoices	Single Source Products		Multi-Source Products			
				Number of Observations	Average Acquisition Cost	Without FUL		With FUL	
						Number of Observations	Average Acquisition Cost	Number of Observations	Average Acquisition Cost
A	B	C	D	E	F	G	H	I	J
0198	IND			47	80.0%	3	55.9%	3	33.8%
0217	IND	X		31	80.3%	12	70.3%	6	16.5%
0621	IND			398	78.9%	83	50.4%	105	16.4%
0708	IND			322	78.9%	78	44.8%	54	12.8%
0815	IND			43	80.1%	8	65.8%	9	9.0%
0838	IND			176	78.9%	19	51.8%	17	14.7%
1028	CHN			675	79.9%	177	56.2%	182	18.1%
1132	CHN	X		522	80.1%	125	53.7%	141	15.8%
1137	CHN	X		68	79.8%	17	53.1%	42	10.4%
1222	CHN	X		1,111	80.0%	284	55.6%	304	18.9%
1304	CHN			1,115	80.0%	260	56.4%	234	20.1%
1413	IND			92	78.6%	22	67.3%	25	13.8%
1493	INST			69	76.0%	20	47.2%	9	15.4%
1498	INST			38	79.9%	15	41.8%	6	5.2%
1551	IND	X		72	80.0%	4	60.3%	1	12.3%
1565	INST			631	76.8%	121	51.8%	57	17.2%
1576	IND			129	81.1%	34	73.4%	20	25.4%
1598	IND			149	78.7%	36	68.3%	41	15.0%
1602	CHN			500	80.0%	130	58.5%	146	17.2%
1644	IND	X		247	79.6%	29	75.1%	6	5.2%
1656	IND	X		113	79.4%	12	56.8%	14	6.5%
1717	CHN			89	81.6%	9	79.8%	1	49.7%
1910	IND			146	79.4%	21	72.8%	2	71.9%
2001	CHN			806	79.9%	184	60.8%	211	16.5%
2036	IND			149	79.1%	12	25.7%	9	8.4%
2067	IND			99	80.8%	8	46.3%	8	47.9%
2380	IND			44	78.4%	8	76.7%	4	16.8%
2411	CHN	X		78	80.1%	9	63.2%	34	15.6%
2480	IND			7	80.1%	2	24.3%		
2578	IND	X		80	80.0%	20	67.1%	23	10.7%
2666	IND			75	79.4%	10	71.3%	3	27.2%
2701	IND			152	78.8%	26	46.9%	16	29.4%
2703	IND			167	77.9%	29	59.4%	19	9.3%
2716	CHN	X		572	79.9%	149	53.6%	156	15.0%
2745	IND			363	79.9%	84	67.1%	60	18.1%
2779	CHN			629	79.8%	126	61.3%	153	18.2%
2823	CHN			24	79.8%	10	55.7%	18	5.2%
2825	IND	X		104	79.7%	38	52.1%	23	11.7%
2920	CHN			72	81.0%	6	52.5%		
2932	CHN			59	78.4%	7	77.8%	22	26.8%
2933	CHN			489	79.9%	134	64.2%	86	19.4%
2968	IND			109	79.7%	30	56.9%	23	17.3%
3014	IND	X		173	78.3%	31	76.2%	29	22.4%
3136	INST			255	76.0%	72	53.0%	38	15.3%
3237	CHN	X		565	79.8%	121	60.7%	172	16.1%
3378	IND			274	79.4%	54	56.9%	42	16.2%
3439	CHN			61	81.1%	15	49.6%	39	7.6%

Acquisition Cost Summary by Pharmacy
Single Source and Multi-Source Drug Products
Kentucky Medicaid

Assigned Number	Pharmacy Type	Internal Urban	Invoices D	Single Source Products		Multi-Source Products			
				Number of Observations	Average Acquisition Cost	Without FUL		With FUL	
						Number of Observations	Average Acquisition Cost	Number of Observations	Average Acquisition Cost
A	B	C	D	E	F	G	H	I	J
3485	IND			337	79.9%	68	57.3%	49	15.3%
3547	INST			97	78.3%	21	59.1%	6	18.5%
3556	IND	X		74	79.5%	14	54.8%	9	16.7%
3577	IND			130	80.1%	16	71.7%	17	12.8%
3668	IND	X		154	79.9%	32	64.0%	30	12.8%
3710	IND			472	79.3%	76	67.2%	46	19.2%
3923	CHN			714	80.0%	137	52.7%	178	18.9%
3996	IND			227	79.5%	48	49.6%	42	14.5%
3997	IND			334	79.1%	62	62.7%	47	13.6%
4117	CHN			57	79.7%	10	70.8%	34	11.5%
4292	INST			62	76.1%	8	60.4%	3	13.2%
4338	IND			219	78.8%	53	48.8%	65	14.0%
4343	CHN	X		536	79.9%	139	54.8%	137	12.8%
4364	CHN	X		31	79.8%	3	81.3%	26	4.9%
4617	IND	X		75	79.5%	5	65.6%	17	12.5%
4641	CHN	X		826	80.0%	183	60.3%	170	15.5%
4679	IND			188	79.2%	32	64.9%	22	13.8%
4686	IND			140	79.8%	31	67.8%	13	11.1%
4844	CHN			45	79.7%	13	67.0%	21	12.8%
4967	IND			9	80.0%	45	45.1%	41	9.5%
5135	IND			185	79.3%	37	66.2%	31	17.1%
5137	IND			169	79.4%	30	62.6%	32	19.4%
5232	IND			355	79.3%	66	44.8%	71	15.9%
5528	IND			130	79.9%	11	66.2%	9	12.5%
5596	IND			189	79.7%	14	68.2%	9	25.4%
5622	CHN	X		518	79.8%	113	64.0%	140	19.0%
5639	IND					47	49.2%	29	15.1%
5862	IND			87	79.0%	17	72.9%	11	9.1%
5946	IND	X		245	78.8%	50	44.9%	52	27.4%
6033	IND			2	79.6%	1	42.6%	1	23.3%
6142	IND			108	78.8%	25	42.9%	24	18.2%
6150	CHN	X		49	79.8%	16	48.3%	37	16.1%
6156	IND			118	79.1%	12	72.4%	4	8.3%
6249	CHN	X		62	79.7%	18	59.2%	39	13.7%
6308	CHN	X		805	80.0%	178	59.1%	209	17.8%
6447	CHN			792	80.0%	210	58.3%	158	16.2%
6461	CHN	X		353	80.0%	84	56.7%	95	13.7%
6472	INST			15	74.2%	4	37.9%	11	20.7%
6494	IND			357	78.7%	79	43.8%	101	13.6%
6632	IND			211	79.4%	33	55.7%	36	20.2%
6771	IND			112	79.4%	44	62.5%	76	12.8%
6931	IND	X		64	79.7%	10	40.1%	22	24.2%
7060	INST			352	75.7%	75	51.3%	38	10.6%
7062	CHN	X		44	79.8%	6	54.1%	38	9.0%
7097	INST			137	76.5%	12	68.0%	5	20.1%
7182	IND	X		131	79.7%	16	61.8%	5	43.0%
7191	IND			177	79.3%	33	75.8%	27	10.3%

Exhibit 13

Acquisition Cost Summary by Pharmacy Single Source and Multi-Source Drug Products Kentucky Medicaid

Assigned Number	Pharmacy Type	Internal Urban	Invoices D	Single Source Products		Multi-Source Products			
				Number of Observations	Average Acquisition Cost	Without FUL		With FUL	
						Number of Observations	Average Acquisition Cost	Number of Observations	Average Acquisition Cost
A	B	C	D	E	F	G	H	I	J
7233	IND	X				28	34.4%	31	14.9%
7289	CHN			750	80.0%	170	59.6%	157	19.3%
7431	IND			110	79.9%	12	75.6%	5	15.0%
7446	IND			234	79.8%	23	39.9%	28	18.0%
7460	CHN	X		761	80.0%	213	60.3%	168	17.8%
7499	IND			422	79.4%	118	60.7%	75	19.0%
7602	IND			311	79.7%	49	40.7%	51	18.4%
7698	CHN			6	78.9%	1	23.8%		
7889	INST			37	75.4%	16	54.6%	4	14.2%
7901	IND	X		74	79.6%	17	45.6%	17	12.7%
7905	IND	X		130	79.2%	30	70.4%	21	11.3%
7978	CHN	X		626	79.8%	162	58.8%	123	16.5%
7986	INST			24	80.5%	9	63.2%	5	15.5%
7994	CHN	X		694	80.1%	144	51.5%	183	19.3%
8012	CHN			883	79.9%	182	58.9%	183	18.7%
8056	CHN		X	1,026	82.4%	278	59.1%	281	18.1%
8270	IND			37	79.0%	14	69.1%	6	27.4%
8321	CHN			500	80.0%	98	54.3%	107	17.4%
8322	CHN			203	78.6%	47	68.0%	43	18.4%
8413	CHN		X	883	82.5%	223	66.2%	189	21.5%
8469	CHN	X	X	1,154	82.4%	307	65.6%	331	17.8%
8479	IND					9	28.3%	16	7.6%
8526	CHN		X	970	82.5%	259	66.1%	230	19.6%
8548	IND			4	80.0%	2	33.4%		
8563	CHN		X	801	82.6%	197	59.9%	203	14.4%
8564	IND			235	79.6%	41	64.8%	23	20.2%
8684	CHN	X	X	1,290	82.4%	259	66.8%	321	16.4%
8756	CHN		X	1,351	82.5%	328	59.8%	294	17.8%
8779	IND	X		120	79.3%	21	59.0%	15	21.7%
8817	IND	X		113	79.6%	22	36.4%	10	11.3%
8872	CHN			469	80.0%	117	59.1%	107	13.9%
8919	CHN		X	666	82.3%	168	63.0%	145	17.0%
8953	CHN		X	879	82.6%	214	62.6%	245	21.9%
8967	CHN	X	X	858	82.3%	205	60.2%	223	21.3%
9001	IND	X		186	79.5%	27	66.5%	10	26.7%
9101	IND	X		302	79.4%	49	67.2%	11	14.5%
9183	IND	X		163	79.4%	33	65.5%	14	24.1%
9205	IND			192	79.2%	23	64.2%	8	16.7%
9208	CHN		X	1,373	82.6%	323	60.8%	344	22.3%
9286	IND	X		17	82.9%	5	24.8%	8	19.3%
9298	CHN		X	1,477	82.5%	359	60.9%	328	23.2%
9322	IND	X		250	79.4%	35	72.6%	12	13.1%
9341	IND			164	79.1%	37	63.1%	36	13.5%
9389	CHN	X	X	2,194	82.5%	463	60.6%	491	20.2%
9415	CHN	X	X	760	82.6%	140	56.5%	142	17.6%
9433	IND			127	79.6%	29	63.5%	12	12.4%
9436	IND			170	79.7%	18	60.2%	18	18.5%

Acquisition Cost Summary by Pharmacy
Single Source and Multi-Source Drug Products
Kentucky Medicaid

Assigned Number	Pharmacy Type	Urban	Internal Invoices	Single Source Products		Multi-Source Products			
				Number of Observations	Average Acquisition Cost	Without FUL		With FUL	
						Number of Observations	Average Acquisition Cost	Number of Observations	Average Acquisition Cost
A	B	C	D	E	F	G	H	I	J
9440	CHN		X	1,478	82.5%	362	62.8%	340	17.9%
9457	IND			152	79.6%	20	73.3%	11	10.8%
9473	CHN		X	553	82.4%	132	65.1%	134	17.6%
9628	CHN		X	713	82.4%	157	60.5%	149	20.7%
9662	IND			2	82.4%			1	26.3%
9687	IND			15	79.7%	1	19.1%		
9704	IND			305	79.0%	23	76.2%	9	30.0%
9746	IND	X		177	80.0%	30	70.9%	28	18.0%
9779	CHN	X	X	997	82.5%	197	67.1%	181	17.8%
9899	CHN			1,044	80.0%	263	57.7%	204	17.3%
9936	CHN	X	X	506	82.4%	134	60.3%	170	16.7%
Number of Stores					149		151		147
Number of Observations					52,621		11,784		11,397
Average					79.8%		58.3%		17.5%
Standard Deviation					1.5%		11.9%		8.1%
Maximum					82.9%		81.3%		71.9%
80th Percentile					80.1%		67.1%		20.2%
Median					79.8%		60.2%		16.6%
20th Percentile					79.1%		50.1%		12.7%
Minimum					74.2%		19.1%		4.9%

Acquisition Cost Summary by Pharmacy **Single Source and Multi-Source Drug Products** **Kentucky Medicaid**

Explanation of Columns

A. Random number assigned to pharmacy

B. Designates type of pharmacy:

CHN = chain pharmacy,

IND = independent pharmacy,

INST = institutional pharmacy.

Chain versus independent designation is based upon a review by Myers and Stauffer as well as the self-identification of the pharmacy. A chain includes 10 or more stores. The institutional designation is based upon review of the percentage of prescriptions that were dispensed to residents of long-term care facilities.

C. An "X" in this column indicates that the pharmacy is located in an urban area. Each pharmacy's zip code was used to determine the county in which it was located. Counties in a Metropolitan Statistical Area as used by the Centers for Medicare and Medicaid Services (CMS) were considered urban.

D. An "X" in this column indicates that the invoices submitted by the pharmacy were primarily "internal" invoices from a related-party wholesale entity. Drug prices on these invoices do not represent true "arms-length" transactions.

E. Number of invoice line items for single source drugs that matched the top 1,000 list of single source drugs reimbursed by Kentucky Medicaid

F. Average acquisition cost as a percent of AWP for single source drugs. The average for each pharmacy was weighted by Kentucky Medicaid volume.

G. Number of invoice line items for multi-source drugs (without an FUL) that matched the top 1,000 list of multi-source drugs reimbursed by Kentucky Medicaid.

H. Average acquisition cost as a percent of AWP for multi-source drugs (without an FUL). The average for each pharmacy was weighted by Kentucky Medicaid volume.

I. Number of invoice line items for multi-source drugs (with an FUL) that matched the top 1,000 list of multi-source drugs reimbursed by Kentucky Medicaid.

J. Average acquisition cost as a percent of AWP for multi-source drugs (with an FUL). The average for each pharmacy was weighted by Kentucky Medicaid volume.

Acquisition Cost Summary by Drug
Top 200 Single Source Drug Products
Kentucky Medicaid
(Limited to Observations from External Invoices)

NDC Number	Description	No. of Obs.	No. of Obs. (Inst.)	No. of Obs. (Retail)	Average Actual Acquisition Cost	AWP	Average Acquisition Cost as % of AWP	Standard Deviation	Average Acquisition Cost (Inst.)	Average Acquisition Cost (Retail)
A B										
00310040260	ACCOLATE/TA/20MG	100		100	1.0114	1.2723	79.5%	0.6%		79.5%
62856024330	ACIPHEX/TE/20MG	164	1	163	3.4286	4.3072	79.6%	0.4%	82.3%	79.6%
64764015104	ACTOS/TA/15MG	64		64	2.6676	3.3544	79.5%	0.4%		79.5%
64764030114	ACTOS/TA/30MG	96		96	4.2694	5.3661	79.6%	0.4%		79.6%
64764045124	ACTOS/TA/45MG	105	1	104	4.6367	5.8327	79.5%	0.5%	77.8%	79.5%
54092038701	ADDERALL XR/CC/20MG	40		40	2.1320	2.6766	79.7%	0.3%		79.7%
54092039101	ADDERALL XR/CC/30MG	29		29	2.1246	2.6711	79.6%	0.7%		79.6%
00173069500	ADVAIR DISKUS/GK/100-50MCG	149	7	142	1.5532	1.9576	79.3%	1.3%	75.7%	79.5%
00173069600	ADVAIR DISKUS/GK/250-50MCG	180	11	169	1.9619	2.4753	79.3%	1.4%	74.9%	79.5%
00173069700	ADVAIR DISKUS/GK/500-50MCG	96	10	86	2.6949	3.4045	79.2%	2.0%	75.0%	79.6%
00088110947	ALLEGRA/TA/180MG	236	6	230	1.8840	2.3723	79.4%	0.8%	75.5%	79.5%
00088110747	ALLEGRA/TA/60MG	148	2	146	1.0875	1.3682	79.5%	0.8%	74.9%	79.5%
61570012001	ALTACE/CA/10MG	105	2	103	1.2478	1.5744	79.3%	1.3%	74.5%	79.4%
00039022310	AMARYL/TA/4MG	122	2	120	0.7669	0.9656	79.4%	0.8%	74.6%	79.5%
62856024641	ARICEPT/TA/10MG	7	7		3.6537	4.9628	73.6%	1.4%	73.6%	
62856024630	ARICEPT/TA/10MG	70	3	67	3.8031	4.7877	79.4%	0.9%	76.9%	79.6%
62856024530	ARICEPT/TA/5MG	48	1	47	3.8070	4.7893	79.5%	1.0%	72.8%	79.6%
00597008214	ATROVENT/AJ/18MCG	163	7	156	2.7669	3.6132	76.5%	1.9%	73.4%	76.7%
00029609451	AUGMENTIN ES-600/PD/600-42.9/5	91		91	0.4141	0.5202	79.6%	0.3%		79.6%
00029609251	AUGMENTIN/PD/400-57MG/5	61	2	59	0.6093	0.7659	79.6%	0.5%	77.2%	79.6%
00029608012	AUGMENTIN/TA/500-125MG	97	3	94	3.3481	4.2050	79.6%	0.4%	77.7%	79.7%
00029608612	AUGMENTIN/TA/875-125MG	202	5	197	4.4716	5.6131	79.7%	0.4%	79.5%	79.7%
00029315920	AVANDIA/TA/4MG	76		76	2.2241	2.7978	79.5%	0.7%		79.5%
00029316013	AVANDIA/TA/8MG	104	2	102	4.1230	5.1955	79.4%	1.0%	74.6%	79.5%
00029316020	AVANDIA/TA/8MG	28	1	27	4.1031	5.1700	79.4%	1.1%	74.7%	79.5%
00026858169	AVELOX/TA/400MG	56	4	52	7.5308	9.4906	79.4%	0.9%	77.0%	79.5%
59627000103	AVONEX ADMINISTRATION PACK/YK/30MCG	28	4	24	208.7113	263.2589	79.3%	0.8%	77.7%	79.5%
00075006037	AZMACORT/AJ/100MCG	89	3	86	2.7725	3.4866	79.5%	0.5%	78.8%	79.5%
00025197531	BEXTRA/TA/10MG	88		88	2.3465	2.9516	79.5%	0.4%		79.5%
00025198031	BEXTRA/TA/20MG	69		69	2.3401	2.9422	79.5%	0.4%		79.5%
00074316560	BIAXIN XL/TI/500MG	77	1	76	3.6770	4.6102	79.8%	0.9%	77.5%	79.8%
00087771964	CEFZIL/PD/250MG/5ML	109	1	108	0.5871	0.7378	79.6%	0.9%	78.5%	79.6%
00087772060	CEFZIL/TA/250MG	23		23	3.3848	4.2523	79.6%	0.4%		79.6%
00025152031	CELEBREX/CA/100MG	39	4	35	1.3203	1.6626	79.4%	0.5%	78.3%	79.5%
00025152531	CELEBREX/CA/200MG	249	7	242	2.2161	2.7894	79.5%	0.6%	77.9%	79.5%

Myers and Stauffer LC

KY_EAC_exhibits_03 [Single-Source-By-Drug - AWP]

10/31/03

Acquisition Cost Summary by Drug
Top 200 Single Source Drug Products
Kentucky Medicaid
(Limited to Observations from External Invoices)

NDC Number	Description	No. of Obs.	No. of Obs. (Inst.)	No. of Obs. (Retail)	Average Actual Acquisition Cost	AWP	Average Acquisition Cost as % of AWP	Standard Deviation	Average Acquisition Cost (Inst.)	Average Acquisition Cost (Retail)
A	B	C	D	E	F	G	H	I	J	K
00025152551	CELEBREX/CA/200MG	33		33	2.2133	2.7797	79.6%	0.5%		79.6%
00025152534	CELEBREX/CA/200MG	11	10	1	2.2122	2.8680	77.1%	1.2%	77.0%	79.1%
00456402001	CELEXA/TA/20MG	199	6	193	1.9317	2.4322	79.4%	0.8%	76.8%	79.5%
00456404001	CELEXA/TA/40MG	97	5	92	2.0154	2.5407	79.3%	0.8%	76.9%	79.5%
00065853110	CIPRO HC/SN0.2-1%	59	4	55	6.0738	7.6335	79.6%	0.4%	78.4%	79.7%
00026851351	CIPRO/TA/500MG	102	3	99	4.3867	5.5264	79.4%	0.9%	75.4%	79.5%
00085126401	CLARINEX/TA/5MG	160	6	154	1.8285	2.2919	79.8%	1.2%	77.0%	79.9%
00085112802	CLARITIN/UL/10MG	85		85	2.9638	3.7236	79.6%	0.3%		79.6%
00597001314	COMBIVENT/AJ/103-18MCG	290	10	280	2.9015	3.6629	79.3%	1.7%	73.5%	79.5%
17314585002	CONCERTA/TZ/18MG	27		27	2.1100	2.6505	79.6%	0.3%		79.6%
17314585102	CONCERTA/TZ/36MG	29		29	2.2411	2.8142	79.6%	0.3%		79.6%
17314585202	CONCERTA/TZ/54MG	32		32	2.4237	3.0406	79.7%	0.4%		79.7%
00007414020	COREG/TA/6.25MG	54	4	50	1.3893	1.7497	79.4%	0.4%	78.7%	79.5%
00075002600	DDAVP/TA/0.2MG	22	5	17	2.6304	3.3062	79.6%	1.7%	77.9%	80.1%
00074712613	DEPAKOTE ERT/1500MG	54	4	50	1.4366	1.8104	79.4%	0.6%	77.7%	79.5%
00074621413	DEPAKOTE/TE/250MG	88	2	86	0.8189	1.0306	79.5%	0.8%	75.8%	79.6%
00074621513	DEPAKOTE/TE/500MG	73		73	1.5167	1.9077	79.5%	0.5%		79.5%
00074621511	DEPAKOTE/TE/500MG	5	2	3	1.6433	2.1384	76.9%	2.3%	78.4%	75.9%
00009519101	DETROL LA/CC/4MG	147	2	145	2.3633	2.9729	79.5%	0.4%	77.9%	79.5%
00049350079	DIFLUCAN/TA/150MG	62	4	58	10.5142	13.2661	79.3%	1.1%	75.3%	79.5%
17314850101	DITROPAN XL/TZ/10MG	44	8	36	2.3425	2.9726	78.8%	1.8%	75.6%	79.5%
17314850001	DITROPAN XL/TZ/5MG	33	4	29	2.2033	2.7891	79.0%	1.3%	76.1%	79.4%
50458003605	DURAGESIC/PR/100MCG/HR	30	4	26	38.4743	48.4410	79.4%	0.7%	78.8%	79.5%
50458003405	DURAGESIC/PR/50MCG/HR	43	4	39	19.0398	23.9534	79.5%	0.5%	78.4%	79.6%
50458003505	DURAGESIC/PR/75MCG/HR	30	4	26	30.0809	37.8338	79.5%	0.8%	78.4%	79.7%
00008083601	EFFEXOR XR/CC/150MG	84	2	82	2.3704	2.9791	79.6%	0.4%	78.5%	79.6%
00008083301	EFFEXOR XR/CC/75MG	122	4	118	2.1779	2.7376	79.6%	0.6%	78.0%	79.6%
58406042534	ENBREL/YK/25MG	22		22	130.2218	163.3250	79.7%	0.5%		79.7%
00002416530	EVISTA/TA/60MG	203		203	2.0628	2.5196	81.9%	1.7%		81.9%
00597005801	FLOMAX/CC/0.4MG	134	10	124	1.5318	1.9324	79.3%	1.0%	76.7%	79.5%
00173045301	FLONASE/AQ/50MCG	340	10	330	3.2273	4.0631	79.4%	0.8%	75.7%	79.5%
00173049400	FLOVENT/AJ/110MCG	153	8	145	4.7154	5.9520	79.2%	1.3%	74.4%	79.5%
00173049500	FLOVENT/AJ/220MCG	78	5	73	7.3236	9.2417	79.2%	1.3%	75.3%	79.5%
00006003144	FOSAMAX/TA/70MG	342	6	336	13.7497	17.2960	79.5%	0.9%	77.5%	79.5%
00049396060	GEODON/CA/20MG	4	1	3	3.4146	4.3781	78.0%	2.5%	74.3%	79.3%

Myers and Stauffer LC

KY_EAC_exhibits_03 [Single-Source-By-Drug - AWP]

10/31/03

Acquisition Cost Summary by Drug
Top 200 Single Source Drug Products
Kentucky Medicaid
(Limited to Observations from External Invoices)

NDC Number	Description	No. of Obs.	No. of Obs. (Inst.)	No. of Obs. (Retail)	Average Actual Acquisition Cost	AWP	Average Acquisition Cost as % of AWP	Standard Deviation	Average Acquisition Cost (Inst.)	Average Acquisition Cost (Retail)
A	B	C	D	E	F	G	H	I	J	K
00049397060	GEODON/CA/40MG	12	1	11	3.4541	4.3781	78.9%	1.5%	74.3%	79.3%
00087606313	GLUCOPHAGE XR/TI/500MG	209	6	203	0.6215	0.7818	79.5%	0.8%	78.2%	79.5%
00049156066	GLUCOTROL XL/TZ/10MG	109	1	108	0.6431	0.8087	79.5%	0.6%	74.1%	79.6%
00087607411	GLUCOVANCE/TA/5-500MG	128	4	124	0.7795	0.9795	79.6%	0.4%	78.0%	79.6%
00002751001	HUMALOG/HV/100 U/ML	103	5	98	4.5724	5.5879	81.9%	1.8%	78.0%	82.1%
00173045900	IMITREX/TA/50MG	93		93	13.7359	17.2696	79.5%	0.3%		79.5%
50474059240	KEPPRA/TA/500MG	29	5	24	1.6927	2.0596	82.2%	1.4%	79.4%	82.8%
00173064255	LAMICTAL/TA/100MG	37	5	32	2.3938	3.0358	78.9%	2.3%	74.2%	79.6%
00173063302	LAMICTAL/TA/25MG	19	2	17	2.2547	2.8674	78.6%	2.6%	74.1%	79.2%
00088222033	LANTUS/HV/100 U/ML	115	5	110	3.8444	4.8420	79.4%	0.7%	77.5%	79.5%
00045152550	LEVAQUIN/TA/500MG	107	2	105	7.7323	9.7331	79.5%	0.6%	77.7%	79.5%
63481068706	LIDODERM/PS/5%	68	6	62	3.9104	4.9250	79.4%	0.5%	78.2%	79.5%
00071015523	LIPITOR/TA/10MG	407	3	404	1.8500	2.3267	79.5%	0.6%	75.0%	79.5%
00071015623	LIPITOR/TA/20MG	328	6	322	2.7756	3.4959	79.4%	0.9%	73.5%	79.5%
00071015723	LIPITOR/TA/40MG	159	5	154	2.8972	3.6436	79.5%	0.4%	79.3%	79.5%
00083226530	LOTREL/CA/5-20MG	130	1	129	1.7529	2.2054	79.5%	0.6%	77.0%	79.5%
00149071001	MACROBID/CA/100MG	58	6	52	1.5845	2.0038	79.1%	1.3%	75.9%	79.5%
00015050842	MEGACE/SC/40MG/ML	4		4	0.5540	0.6665	83.1%			83.1%
00078031190	MIACALCIN/AT/200 U/DOSE	182	16	166	14.7351	18.5865	79.3%	0.8%	77.2%	79.5%
00597002901	MOBIC/TA/7.5MG	71		71	1.9435	2.4509	79.3%	1.4%		79.3%
00075150616	NASACORT AQ/AQ/55MCG	163	3	160	3.0327	3.8134	79.5%	0.4%	78.7%	79.6%
00085119701	NASONEX/BD/50MCG	248	12	236	3.2062	4.0481	79.2%	1.6%	73.3%	79.5%
00071080324	NEURONTIN/CA/100MG	105	3	102	0.4247	0.5351	79.4%	0.9%	74.5%	79.5%
00071080524	NEURONTIN/CA/300MG	280	6	274	1.0665	1.3439	79.4%	0.9%	74.2%	79.5%
00071080624	NEURONTIN/CA/400MG	102	5	97	1.2786	1.6141	79.2%	1.3%	74.1%	79.5%
00071041624	NEURONTIN/TA/800MG	115	4	111	1.7357	2.1849	79.4%	0.4%	78.5%	79.5%
00071042624	NEURONTIN/TA/600MG	74	3	71	2.0823	2.6218	79.4%	0.4%	78.5%	79.5%
00186504031	NEXIUM/CE/40MG	355	1	354	3.5398	4.4545	79.5%	1.3%	77.5%	79.5%
00069154068	NORVASC/TA/10MG	218	4	214	1.7297	2.1744	79.5%	0.4%	79.0%	79.6%
00069153068	NORVASC/TA/5MG	104	2	102	1.1624	1.4591	79.7%	0.5%	76.6%	79.7%
00069153072	NORVASC/TA/5MG	84	2	82	1.1386	1.4336	79.4%	0.7%	75.8%	79.5%
00074377113	OMNICEF/PD/125MG/5ML	66		66	0.5494	0.6886	79.8%	1.1%		79.8%
00062190315	ORTHO TRI-CYCLEN/TA/7 DAYS X 3	127	1	126	1.0060	1.2644	79.6%	0.4%	77.5%	79.6%
59011010310	OXYCONTIN/TM/20MG	56	3	53	2.0326	2.5716	79.0%	3.1%	66.4%	79.8%
59011010510	OXYCONTIN/TM/40MG	54		54	3.6367	4.5630	79.7%	0.4%		79.7%

Myers and Stauffer LC

KY_EAC_exhibits_03 [Single-Source-By-Drug - AWP]

10/31/03

Acquisition Cost Summary by Drug
Top 200 Single Source Drug Products
Kentucky Medicaid
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NDC Number	Description	No. of Obs.	No. of Obs. (Inst.)	No. of Obs. (Retail)	Average Actual Acquisition Cost	AWP	Average Acquisition Cost as % of AWP	Standard Deviation	Average Acquisition Cost (Inst.)	Average Acquisition Cost (Retail)
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59011010710	OXYCONTIN/TM/80MG	19	1	18	6.7630	8.5808	78.8%	3.5%	64.6%	79.6%
00065027105	PATANOL/50/0.1%	133	10	123	10.8658	13.6497	79.6%	0.4%	78.9%	79.7%
00029320713	PAXIL CR/T/25MG	181	8	173	2.2681	2.8606	79.3%	1.2%	74.4%	79.5%
00029321013	PAXIL/T/10MG	143	9	134	2.1668	2.7313	79.3%	1.5%	75.3%	79.6%
00029321120	PAXIL/T/20MG	195	2	193	2.2643	2.8481	79.5%	0.7%	74.7%	79.6%
00029321113	PAXIL/T/20MG	57	2	55	2.2788	2.8674	79.5%	0.9%	74.7%	79.7%
00029321213	PAXIL/T/30MG	141	9	132	2.3261	2.9355	79.3%	1.4%	74.2%	79.6%
00029321313	PAXIL/T/40MG	173	8	165	2.4653	3.1091	79.3%	1.2%	74.2%	79.5%
63653117101	PLAVIX/T/75MG	227	4	223	3.1822	3.9996	79.6%	1.0%	78.5%	79.6%
63653117106	PLAVIX/T/75MG	46	1	45	3.2983	4.1513	79.5%	0.3%	78.5%	79.5%
63653117103	PLAVIX/T/75MG	9	8	1	3.2763	4.1560	78.9%	2.0%	78.9%	78.8%
59148000216	PLETAL/T/100MG	73	1	72	1.3789	1.7345	79.5%	0.4%	78.5%	79.5%
00003517805	PRAVACHOL/T/20MG	89	4	85	2.3227	2.9220	79.5%	0.6%	79.0%	79.5%
00003519410	PRAVACHOL/T/40MG	91	4	87	3.4866	4.3810	79.6%	0.4%	78.5%	79.6%
00046086781	PREMARIN/T/0.625MG	125	1	125	0.6597	0.8280	79.7%	0.3%	78.5%	79.7%
00046086791	PREMARIN/T/0.625MG	30	1	29	0.6576	0.8318	79.1%	0.8%	78.5%	79.1%
00046086681	PREMARIN/T/1.25MG	73	2	73	0.9238	1.1608	79.6%	0.5%	78.9%	79.6%
00046087506	PREMPRO/T/0.625-2.5	120	2	118	1.0500	1.3198	79.6%	0.7%	78.9%	79.6%
00300304613	PREVACID/CE/30MG	257	9	257	3.5690	4.4829	79.6%	0.3%	69.4%	79.6%
00300304611	PREVACID/CE/30MG	9	9	9	3.1835	4.5904	69.4%	3.9%	69.4%	79.6%
00186074231	PRIOSEC/CE/20MG	315	4	315	3.6740	4.6145	79.6%	0.3%	79.6%	79.6%
00186074282	PRIOSEC/CE/20MG	4	4	4	3.6943	4.6143	80.1%	0.6%	80.1%	80.1%
00008084181	PROTONIX/TE/40MG	195	6	189	2.8191	3.5489	79.4%	0.7%	77.8%	79.5%
00008084199	PROTONIX/TE/40MG	11	8	3	2.7509	3.5739	77.0%	3.2%	78.0%	74.3%
00085113201	PROVENTIL HFA/J/90MCG	89	89	89	4.6169	5.8151	79.4%	0.7%	79.4%	79.4%
00002300475	PROZAC WEEKLY/CE/90MG	51	4	47	16.7198	20.4695	81.8%	2.0%	77.6%	82.1%
00186198804	PULMICORT/AL/0.25MG/2ML	32	2	30	1.8270	2.3139	79.0%	1.7%	75.3%	79.2%
00186198904	PULMICORT/AL/0.5MG/2ML	53	5	48	1.8364	2.3189	79.2%	1.0%	77.2%	79.4%
00186091542	PULMICORT/AY/200MCG	61	3	58	113.5579	143.3244	79.2%	1.3%	75.2%	79.5%
50242010040	PULMOZYME/SA/1MG/ML	5	5	5	15.0889	18.8663	80.0%	1.8%	80.0%	80.0%
00052010530	REMERON/T/15MG	81	6	75	2.2968	2.8169	81.6%	3.4%	79.0%	81.8%
00052010730	REMERON/T/30MG	69	1	68	2.3781	2.8916	82.3%	1.7%	75.9%	82.4%
00052010630	REMERON/JUL/15MG	44	9	35	1.9265	2.4427	78.9%	1.3%	76.7%	79.5%
00052010830	REMERON/JUL/30MG	57	7	50	1.9919	2.5247	78.9%	1.2%	76.4%	79.3%
58468002101	RENAGEL/T/800MG	14	3	11	1.0444	1.3146	79.5%	1.2%	78.2%	79.8%

Acquisition Cost Summary by Drug
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00186107008	RHINOCORT AQUA/BD/32MCG	157	6	151	6.0842	7.8036	78.0%	1.8%	75.0%	78.1%
50458030104	RISPERDAL/TA/0.25MG	20	4	16	2.4054	3.0314	79.4%	0.8%	78.6%	79.6%
50458030206	RISPERDAL/TA/0.5MG	56	5	51	2.4504	3.0863	79.4%	1.0%	79.6%	79.4%
50458030250	RISPERDAL/TA/0.5MG	4	4	4	2.4947	3.1953	78.1%	1.3%	78.1%	79.4%
50458030006	RISPERDAL/TA/1MG	51	2	49	2.5025	3.1556	79.3%	1.0%	77.4%	79.4%
50458030001	RISPERDAL/TA/1MG	14	10	4	2.5105	3.2155	78.1%	1.9%	78.1%	78.2%
50458032006	RISPERDAL/TA/2MG	63	4	59	4.0953	5.1610	79.4%	0.5%	78.0%	79.5%
50458033006	RISPERDAL/TA/3MG	27	4	23	4.9016	6.2006	79.1%	0.9%	77.4%	79.4%
50458035006	RISPERDAL/TA/4MG	12	3	9	6.4653	8.1558	79.3%	1.1%	77.8%	79.8%
00004196401	ROCEPHIN/HS/1G	16	10	6	36.2257	51.1111	70.9%	15.3%	65.3%	80.2%
00173046400	SEREVENT/AJ/21MCG	179	6	173	5.1725	6.5422	79.1%	1.7%	72.5%	79.3%
00310027110	SEROQUEL/TA/100MG	54	6	48	2.3416	2.9505	79.4%	0.6%	78.2%	79.5%
00310027210	SEROQUEL/TA/200MG	35	5	30	4.3985	5.5597	79.1%	1.0%	77.2%	79.4%
00310027510	SEROQUEL/TA/25MG	73	5	68	1.2878	1.6229	79.4%	0.9%	77.5%	79.5%
00310027460	SEROQUEL/TA/300MG	11	2	9	5.9663	7.2190	82.6%	0.9%	80.7%	83.1%
00006011731	SINGULAR/TA/10MG	200	2	198	2.3531	2.9601	79.5%	0.5%	77.5%	79.5%
00006011754	SINGULAR/TA/10MG	107	5	102	2.3456	2.9546	79.4%	0.6%	78.7%	79.4%
00006071131	SINGULAR/TC/4MG	68		68	2.3550	2.9654	79.4%	0.5%		79.4%
00006027531	SINGULAR/TC/5MG	78		78	2.3613	2.9731	79.4%	0.4%		79.4%
00086006210	SKELAXIN/TA/400MG	135	2	133	0.8355	1.0588	78.9%	1.6%	77.5%	78.9%
60574411101	SYNAGIS/HS/100MG	1		1	1,049.2500	1,311.5600	80.0%			80.0%
60574411201	SYNAGIS/HS/50MG	1		1	555.6700	694.5900	80.0%			80.0%
00045064165	TOPAMAX/TA/100MG	95	5	90	2.8814	3.6344	79.3%	1.0%	77.3%	79.4%
00045064265	TOPAMAX/TA/200MG	27	3	24	3.3896	4.2683	79.4%	0.5%	78.3%	79.6%
00045063965	TOPAMAX/TA/25MG	103	10	93	1.2300	1.5497	79.4%	0.7%	77.7%	79.6%
00186109205	TOPROL XL/TA/100MG	193	3	190	0.8762	1.1040	79.4%	1.1%	77.8%	79.4%
00186109005	TOPROL XL/TA/50MG	255	5	250	0.5847	0.7362	79.4%	0.7%	76.8%	79.5%
00074401390	TRICOR/TA/160MG	110	2	108	2.1504	2.6926	79.9%	1.3%	78.5%	79.9%
00078033705	TRILEPTAL/TA/300MG	39	4	35	1.4872	1.8717	79.5%	0.4%	79.1%	79.5%
00045065060	ULTRACET/TA/37.5-325MG	161	1	160	0.7503	0.94422	79.5%	0.5%	77.8%	79.5%
00006007468	VIOXX/TA/12.5MG	22	1	21	2.2906	2.8756	79.7%	0.5%	78.5%	79.7%
00006011068	VIOXX/TA/25MG	204	3	201	2.2882	2.8756	79.6%	0.4%	78.8%	79.6%
00006011468	VIOXX/TA/50MG	22	3	19	3.3398	4.1995	79.5%	0.4%	78.5%	79.7%
00173094755	WELLBUTRIN SR/TS/100MG	90	7	83	1.4330	1.8142	79.0%	1.9%	72.9%	79.5%
00173013555	WELLBUTRIN SR/TS/150MG	302	9	293	1.5330	1.9385	79.1%	3.5%	72.4%	79.3%

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A	B	C	D	E	F	G	H	I	J	K
00013830304	XALATAN/50/0.005%	185	5	180	17.0193	21.4192	79.5%	0.6%	77.5%	79.5%
63402051224	XOPENEX/SA/0.63MG/3ML	73	7	66	0.6320	0.7981	79.2%	1.2%	76.1%	79.5%
00173038354	ZANTAC/ST/15MG/ML	30	7	23	0.3732	0.4651	80.4%	3.8%	74.1%	82.3%
00069311019	ZITHROMAX/PD/100MG/5ML	80		80	1.6623	2.0919	79.5%	0.5%	75.1%	79.5%
00069312019	ZITHROMAX/PD/200MG/5ML	173	2	171	1.6541	2.0804	79.5%	0.6%	75.1%	79.6%
00069306075	ZITHROMAX/TA/250MG	287	1	286	5.8773	7.3908	79.5%	0.5%	72.6%	79.6%
00069306030	ZITHROMAX/TA/250MG	33	1	32	5.8755	7.4176	79.2%	1.3%	72.6%	79.4%
0006074031	ZOCOR/TA/20MG	136		136	3.5340	4.4348	79.7%	0.3%	79.7%	79.7%
00049491066	ZOLOFT/TA/100MG	212	3	209	2.0247	2.5464	79.5%	0.6%	74.8%	79.6%
00049496050	ZOLOFT/TA/25MG	46	10	36	2.0160	2.5811	78.1%	2.8%	73.3%	79.5%
00049490066	ZOLOFT/TA/50MG	168	4	164	2.0304	2.5598	79.3%	1.3%	71.3%	79.5%
00049490041	ZOLOFT/TA/50MG	5	5		1.9544	2.6468	73.8%	2.4%	73.8%	
00049490073	ZOLOFT/TA/50MG	19	2	17	2.0181	2.5539	79.0%	1.6%	74.8%	79.5%
00002445485	ZYPREXA ZYDIS/TJ/10MG	8	2	6	8.7308	10.6587	81.9%	2.0%	79.0%	82.9%
00002411760	ZYPREXA/TA/10MG	66	7	59	7.8001	9.4552	82.5%	1.1%	80.2%	82.8%
00002411733	ZYPREXA/TA/10MG	6	5	1	7.7921	9.5837	81.3%	1.3%	80.9%	83.3%
00002441560	ZYPREXA/TA/15MG	27	2	25	11.7006	14.1671	82.6%	1.6%	77.7%	83.0%
00002411260	ZYPREXA/TA/2.5MG	51	11	40	4.3394	5.2580	82.5%	1.3%	81.4%	82.8%
00002442060	ZYPREXA/TA/20MG	15	4	11	15.4533	18.9152	81.7%	1.9%	79.0%	82.7%
00002411560	ZYPREXA/TA/5MG	52	6	46	5.1139	6.2004	82.5%	1.2%	79.8%	82.8%
00002411533	ZYPREXA/TA/5MG	8	8		5.1237	6.3407	80.8%	1.2%	80.8%	
00002411660	ZYPREXA/TA/7.5MG	14	3	11	5.7207	6.9725	82.1%	2.0%	78.6%	83.1%
00069553047	ZYRTEC/ST/1MG/ML	52		52	0.2010	0.2534	79.3%	0.4%	79.3%	79.3%
00069553093	ZYRTEC/ST/1MG/ML	91	2	89	0.2019	0.2539	79.6%	0.6%	75.9%	79.6%
00069551066	ZYRTEC/TA/10MG	279	8	271	1.6320	2.0562	79.4%	1.0%	74.4%	79.5%

Explanation of Columns

- A: National Drug Code Number
B: Product Description
C: Number of invoice line items observed.
D: Number of invoice line items observed for institutional pharmacies.
E: Number of invoice line items observed for retail pharmacies.
F: Average acquisition cost per unit observed in the invoices (institutional and retail pharmacies).
G: Average of October 2002 and April 2003 AWP per unit weighted by quantity purchased.
H: Average acquisition cost as % of AWP (institutional and retail pharmacies).
I: Standard deviation of acquisition cost as a percent of AWP for each invoice line item.
J: Average acquisition cost as % of AWP for institutional pharmacies.
K: Average acquisition cost as % of AWP for retail pharmacies.

Acquisition Cost Summary by Drug
Top 200 Multi-Source Drug Products without an FUL Price
Kentucky Medicaid
(Limited to Observations from External Invoices)

NDC Number	Description	No. of Obs.	Average Actual Acquisition Cost	AWP	Average Acquisition Cost as % of AWP	Comparison to SMAC Price - if applicable (Only applies to April 2003 Invoices)			
						Average Actual Acquisition Cost (April 2003 Invoices Only)	April 2003 SMAC (if applicable)	April 2003 Acquisition Cost as % of SMAC	
A	B	C	D	E	F	G	H	I	
62794013106	ACTICIN/KA/5%	28	0.3387	0.4713	71.8%	0.3621	0.5285	68.5%	
00026886151	ADALAT CC/TS/90MG	9	2.2966	2.8980	79.3%				
58521003201	ADDERALL/TA/10MG	5	1.2920	1.6318	79.2%	1.3466	1.3857	97.2%	
58521003301	ADDERALL/TA/20MG	4	1.3094	1.6430	79.7%	1.3524	1.3857	97.6%	
58521003101	ADDERALL/TA/5MG	2	1.3045	1.6430	79.4%	1.3459	1.3857	97.1%	
00093066116	ALBUTEROL SULFATE/ST/2MG/5ML	15	0.0199	0.0651	30.6%				
52555059417	ALBUTEROL/AB/90MCG	4	0.2162	1.3224	16.3%				
00093227534	AMOX TRIPOTASSIUM CLAVULANATE/TA/875-125	34	3.3231	5.0515	65.8%				
00093415580	AMOXICILLIN/PD/250MG/5ML	2	0.0137	0.0474	28.8%				
63304076301	AMOXICILLIN/TA/875MG	47	0.5190	0.9690	53.6%				
00029600922	AMOXIL/PD/250MG/5ML	122	0.0091	0.0407	22.4%				
00555097202	AMPHETAMINE SALT COMBO/TA/10MG	19	0.7970	1.3716	58.1%	0.7293	1.3857	52.6%	
00555097302	AMPHETAMINE SALT COMBO/TA/20MG	10	0.8024	1.3716	58.5%	0.7000	1.3857	50.5%	
00555097102	AMPHETAMINE SALT COMBO/TA/5MG	14	0.7963	1.3716	58.2%	0.7042	1.3857	50.8%	
59702021516	ATUSS DM/ST/15-10-2/5	12	0.0591	0.0758	78.0%				
00054408425	AZATHIOPRINE/TA/50MG	12	0.3348	1.3108	25.5%	0.3048	1.3161	23.2%	
00173038879	BECONASE AQ/AQ/42MCG	39	2.0353	2.5624	79.4%				
00066049425	BENZACLIN/JG/1-5%	52	1.8420	2.3100	79.7%				
00185077130	BISOPROLOL FUMARATE/TA/5MG	48	0.7079	1.2197	58.0%				
00378117591	BUSPIRONE HCL/TA/30MG	14	0.6709	3.6350	18.5%	0.6963	0.8330	83.6%	
52544065701	BUSPIRONE HCL/TA/5MG	1	0.1155	0.7713	15.0%				
46672005350	BUTALBITAL/APAP/CAFFEINE/TA/325-40-50	4	0.1339	0.4950	27.1%				
00603254728	BUTALBITAL/APAP/CAFFEINE/TA/325-40-50	8	0.1561	0.6101	25.6%				
00093077801	CARBAMAZEPINE/TC/100MG	23	0.1067	0.2311	46.2%				
00378009401	CARBIDOPA/ILEVODOPA/TS/50-200MG	18	1.1969	1.8085	66.2%				
62037059890	CARTIA XT/CC/180MG	4	0.8427	1.4458	58.3%	0.7772	1.3746	56.5%	
62037059990	CARTIA XT/CC/240MG	5	1.1598	2.0511	56.5%	1.1106	1.9500	57.0%	
62037060090	CARTIA XT/CC/300MG	5	1.5408	2.6582	58.0%	1.4411	2.5273	57.0%	
65939038742	CEFTIN/TA/250MG	3	3.9794	4.9842	79.8%				
63304075120	CEFUROXIME/TA/250MG	72	2.7178	4.2225	64.4%	2.8510	4.6913	60.8%	
63304075220	CEFUROXIME/TA/500MG	44	5.1211	7.6438	67.0%	5.2645	8.5493	61.6%	

Acquisition Cost Summary by Drug
Top 200 Multi-Source Drug Products without an FUL Price
Kentucky Medicaid
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						Average Actual Acquisition Cost (April 2003 Invoices Only)	April 2003 SMAC (if applicable)	Average Acquisition Cost as % of SMAC	
A	B	C	D	E	F	G	H	I	
00093417774	CEPHALEXIN/PD/250MG/5ML	56	0.0682	0.1575	43.3%				
00093417773	CEPHALEXIN/PD/250MG/5ML	36	0.0822	0.1890	43.5%				
00085045803	CLARITIN/TA/10MG	91	2.5684	3.2299	79.5%	2.4110	0.5573	432.6%	
00085045806	CLARITIN/TA/10MG	7	2.5682	3.2297	79.5%	2.5424	0.5573	456.2%	
51672404806	CLOTRIMAZOLE/BETAMETHASONE/KA/1-0.05%	76	0.3948	1.0949	36.1%	0.3185	1.1500	27.7%	
51672404801	CLOTRIMAZOLE/BETAMETHASONE/KA/1-0.05%	81	0.5920	1.5247	38.8%	0.4412	1.1500	38.4%	
51672127502	CLOTRIMAZOLE/KA/1%	49	0.2038	0.4974	38.9%	0.3320	0.0737	450.4%	
00172436060	CLOZAPINE/TA/100MG	6	0.9770	3.3280	29.4%	1.0617	2.4750	42.9%	
00078012705	CLOZARIL/TA/100MG	6	3.1831	4.0602	78.4%	3.2410	2.4750	131.0%	
00056017270	COUMADIN/TA/5MG	54	0.6436	0.8088	79.6%	0.6691	0.5720	117.0%	
00032122001	CREON 20/CE/66.4-20-75	4	1.4879	1.8770	79.3%				
00172292960	CYPROHEPTADINE HCL/TA/4MG	6	0.1393	0.4269	32.6%				
00075245201	DDAVP/AT/0.1MG/ML	4	25.7900	32.4544	79.5%				
00004026401	DEMADEX/TA/20MG	16	0.7627	0.9626	79.2%	0.7990	0.9234	86.5%	
24208034205	DESMOPRESSIN ACETATE/AT/0.1MG/ML	14	16.0152	28.6680	55.9%				
62794014501	DIGITEK/TA/125MCG	39	0.1052	0.1894	55.5%				
00071036224	DILANTIN/CA/100MG	126	0.2388	0.3005	79.5%				
00071036232	DILANTIN/CA/100MG	21	0.2389	0.3033	78.8%				
00071036240	DILANTIN/CA/100MG	12	0.2608	0.3363	77.6%				
00071221420	DILANTIN-125/SC/125MG/5ML	14	0.1311	0.1659	79.0%				
00093511298	DILTIAZEM HCL/CC/120MG	4	0.6071	1.1981	50.7%	0.6112	0.6450	94.8%	
00093511798	DILTIAZEM HCL/CC/180MG	8	0.7480	1.4458	51.7%	0.7533	1.3746	54.8%	
0028257709	DILTIAZEM HCL/CC/180MG	53	0.7041	1.4456	48.7%	0.7236	0.9300	77.8%	
0028257809	DILTIAZEM HCL/CC/240MG	56	0.9742	2.0506	47.5%	1.0006	1.9500	51.3%	
00093511898	DILTIAZEM HCL/CC/240MG	10	1.0501	2.0511	51.2%	1.0382	1.9500	53.2%	
00093511998	DILTIAZEM HCL/CC/300MG	5	1.3888	2.6582	52.2%	1.3807	2.5273	54.6%	
0028257909	DILTIAZEM HCL/CC/300MG	28	1.2652	2.6577	47.6%	1.2737	2.5273	50.4%	
00378528001	DILTIAZEM HCL/CT/180MG	22	0.3904	1.0715	36.4%	0.3900	1.3746	28.4%	
00378534001	DILTIAZEM HCL/CT/240MG	13	0.5328	1.1460	46.5%	0.4949	1.9500	25.4%	
00472093616	DIOTOLIS/150MG/15ML	3	0.0089	0.0361	24.6%				
00677180333	D-METHORPHAN HB/PE/CPM LIQ/ST/15-10-2/5	10	0.0330	0.0660	50.1%				

Myers and Stauffer LC

KY_EAC_exhibits_03 [MSNF-By-Drug - AWP&SMAC]

10/31/03

Acquisition Cost Summary by Drug
Top 200 Multi-Source Drug Products without an FUL Price
Kentucky Medicaid
(Limited to Observations from External Invoices)

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NDC Number	Description	No. of Obs.	Average Actual Acquisition Cost		Average Acquisition Cost as % of AWP		Average Actual Acquisition Cost (April 2003 Invoices Only) applicable)			Average Acquisition Cost as % of SMAC
A	B	C	D	E	F	G	H	I		
60951079770	ENDOCET/TA/10-650MG	15	0.8129	1.4810	54.9%	0.8326	1.4187	58.7%		
00032102601	ESTRATEST/TA/2.5-1.25MG	59	1.4355	1.8131	79.2%					
00093610812	FLUOXETINE HCL/SJ/20MG/5ML	3	0.1315	0.9874	13.3%					
49884073501	FLUOXETINE HCL/TA/20MG	1	0.5000	2.8006	17.9%					
00185015701	FLUVOXAMINE MALEATE/TA/100MG	14	0.6857	3.0375	22.6%	0.6438	1.1775	54.7%		
00185002701	FLUVOXAMINE MALEATE/TA/50MG	6	0.5935	2.9616	20.0%	0.4449	1.1175	39.8%		
00087607111	GLUCOPHAGE/TA/1000MG	15	1.3268	1.6724	79.3%	1.3217	0.3263	405.1%		
00087606005	GLUCOPHAGE/TA/500MG	26	0.6465	0.8118	79.6%	0.6450	0.2699	239.0%		
00087606010	GLUCOPHAGE/TA/500MG	1	0.6462	0.8118	79.6%	0.6462	0.2699	239.4%		
00087607005	GLUCOPHAGE/TA/850MG	5	1.0988	1.3801	79.6%	1.0909	0.2849	382.9%		
58177021404	GUAIFENEX PSE/TM/600-60MG	15	0.0489	0.3590	13.6%					
00002877059	HUMULIN 70/30/HQ/70-30 U/ML	3	4.4991	5.6567	79.5%					
00002871501	HUMULIN 70/30/HV/70-30 U/ML	51	2.2771	2.7603	82.5%					
00002831501	HUMULIN N/HV/100 U/ML	35	2.2690	2.7472	82.6%					
00002821501	HUMULIN R/HV/100 U/ML	17	2.2634	2.7421	82.5%					
00172208380	HYDROCHLOROTHIAZIDE/TA/25MG	25	0.0240	0.0792	30.4%					
00472127016	IBUPROFEN/SC/100MG/5ML	14	0.0353	0.0514	68.6%					
00046047181	INDERAL LA/CS/80MG	37	1.1392	1.4348	79.4%					
49502068503	IPRATROPIUM BROMIDE/SA/0.2MG/ML	18	0.1152	0.7056	16.3%	0.1136	0.1320	86.1%		
49502068560	IPRATROPIUM BROMIDE/SA/0.2MG/ML	17	0.1212	0.7040	17.2%	0.1224	0.1320	92.7%		
00472075123	IPRATROPIUM BROMIDE/SA/0.2MG/ML	15	0.1200	0.9040	13.3%					
00054840211	IPRATROPIUM BROMIDE/SA/0.2MG/ML	3	0.1345	0.7050	19.1%	0.1239	0.1320	93.9%		
00472075160	IPRATROPIUM BROMIDE/SA/0.2MG/ML	3	0.2889	0.7920	36.5%	0.2634	0.1320	199.5%		
49502068533	IPRATROPIUM BROMIDE/SA/0.2MG/ML	5	0.1329	0.7040	18.9%					
00258361301	ISOSORBIDE DINITRATE/TS/40MG	21	0.3568	0.5822	61.4%					
59930158701	ISOSORBIDE MONONITRATE/TS/120MG	23	0.0639	1.8905	3.4%					
59930150201	ISOSORBIDE MONONITRATE/TS/30MG	97	0.0542	1.1156	4.9%					
00228271311	ISOSORBIDE MONONITRATE/TS/30MG	1	0.0522	1.4481	3.6%					
00245004115	KLOR-CON 10/TS/10MEQ	7	0.0939	0.3058	30.7%					
00245004111	KLOR-CON 10/TS/10MEQ	14	0.1143	0.3127	36.5%					
00245005711	KLOR-CON M10/TQ/10MEQ	47	0.1425	0.2905	49.1%					

Acquisition Cost Summary by Drug
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			C	D	E	F	G	H	I	
A	B	C	D	E	F	G	H	I		
00245005811	KLOR-CON M20/TQ/20MEQ	84	0.2510	0.5291	47.4%	0.2019	0.4510	44.8%		
00245005815	KLOR-CON M20/TQ/20MEQ	11	0.2733	0.5250	52.0%	0.3395	0.4510	75.3%		
00245005801	KLOR-CON M20/TQ/20MEQ	11	0.2613	0.5735	45.6%	0.2624	0.4510	58.2%		
00245005810	KLOR-CON M20/TQ/20MEQ	2	0.2510	0.5161	48.6%	0.2510	0.4510	55.7%		
00173024275	LANOXIN/TA/125MCG	10	0.1465	0.1847	79.3%					
00173024975	LANOXIN/TA/250MCG	3	0.1442	0.1847	78.1%					
60432054716	LINDANE/SS/1%	9	0.1155	0.2134	54.1%					
52544084728	LOW-OGESTREL/TA/0.3-0.03MG	23	0.7863	1.0900	72.1%	0.7589	1.2257	61.9%		
49884090738	MEGESTROL ACETATE/SC/40MG/MIL	31	0.3823	0.5998	63.7%					
53014057530	METADATE CD/CM/20MG	13	1.2478	1.5645	79.8%					
00591245501	METFORMIN HCL/TA/1000MG	34	0.1566	1.4426	10.9%	0.1643	0.3263	50.4%		
00378024401	METFORMIN HCL/TA/1000MG	1	1.0184	1.4500	70.2%					
62037067601	METFORMIN HCL/TA/1000MG	1	0.1395	1.4308	9.8%	0.1395	0.3263	42.8%		
00228271811	METFORMIN HCL/TA/1000MG	73	0.1438	1.4490	9.9%	0.1399	0.3263	42.9%		
00591271301	METFORMIN HCL/TA/500MG	54	0.1062	0.7005	15.2%	0.1040	0.2699	38.5%		
00378023401	METFORMIN HCL/TA/500MG	4	0.2253	0.7035	32.0%	0.1281	0.2699	47.5%		
62037067401	METFORMIN HCL/TA/500MG	2	0.1050	0.7043	14.9%	0.1050	0.2699	38.9%		
00228265711	METFORMIN HCL/TA/500MG	147	0.1111	0.7035	15.8%	0.1146	0.2699	42.4%		
00143129205	METHOCARBAMOL/TA/750MG	2	0.1117	0.4675	23.9%					
00781175001	METHOCARBAMOL/TA/750MG	17	0.1682	0.4941	34.0%					
00034051710	MS CONTIN/TS/100MG	1	4.3628	5.4699	79.8%					
00093101501	NABUMETONE/TA/500MG	2	0.3696	1.2970	28.5%					
00093101601	NABUMETONE/TA/750MG	8	0.4346	1.5317	28.4%					
24208063110	NEOMYCIN/POLYMYXIN/HCl/SA/3.5-10K-1	36	0.8512	3.0800	27.6%	1.2005	1.2375	97.0%		
24208063562	NEOMYCIN/POLYMYXIN/HCl/SA/3.5-10K-1	64	0.8459	3.0800	27.5%	1.2783	1.0470	122.1%		
00078024815	NEORAL/CA/100MG	15	5.0672	6.1070	83.0%					
00078024615	NEORAL/CA/25MG	15	1.2674	1.5283	82.9%					
00093081901	NIFEDICAL XL/TZ/30MG	21	0.6927	1.3645	50.8%	0.7441	1.5722	47.3%		
00093517301	NIFEDICAL XL/TZ/60MG	21	1.1913	2.3617	50.4%					
00378347501	NIFEDIPINE ER/TZ/30MG	5	0.7909	1.3245	59.7%	0.7297	1.5722	46.4%		
00378348201	NIFEDIPINE ER/TZ/60MG	9	1.1959	2.2915	52.2%					

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000378349501	NIFEDIPINE ER/TZ/90MG	15	1.6487	2.5615	64.4%				
00093102101	NIFEDIPINE/TS/30MG	37	0.6656	1.1535	57.7%	0.6985	1.5722	44.4%	
00093102201	NIFEDIPINE/TS/60MG	22	1.2627	2.1680	58.2%				
62794020293	NITREK/PV/0.2MG/HR	4	0.7726	1.8300	43.6%	0.4547	1.0175	44.7%	
62794020493	NITREK/PV/0.4MG/HR	1	0.5493	2.1867	25.1%	0.5493	1.2000	45.8%	
00378910493	NITROGLYCERIN/PV/0.2MG/HR	36	0.5768	1.6167	35.7%	0.5422	1.0175	53.3%	
00378911293	NITROGLYCERIN/PV/0.4MG/HR	22	0.6627	1.8467	35.9%	0.6492	1.2000	54.1%	
58177032418	NITROQUICK/TU/0.4MG	22	0.0825	0.1825	45.2%				
00169347718	NOVOLIN 70/30HJ/70-30 U/mL	3	4.3444	5.4467	79.8%				
00169183711	NOVOLIN 70/30HV/70-30 U/mL	17	1.9712	2.7577	71.6%				
00169183411	NOVOLIN N/HV/100 U/mL	13	2.0219	2.7685	73.1%				
00169183311	NOVOLIN R/HV/100 U/mL	13	2.0266	2.7685	73.3%				
00574200815	NYSTOPIA/100000 U/G	27	1.1801	1.8307	64.5%	1.1310	1.7196	65.8%	
00062190115	ORTHO-CYCLENIT/A0.25-0.035	27	1.0326	1.2987	79.5%	1.0680	1.1637	91.8%	
00062178115	ORTHO-NOVUM/TA/7 DAYS X 3	39	1.0260	1.2888	79.6%	1.0674	1.1637	91.7%	
64376070216	P CHLOR DM/ST/15-10-2/5	70	0.0317	0.0593	53.5%				
00064341030	PANAFIL/OA/	9	2.2304	2.9333	76.0%				
53014025001	PEDIA/PRED/SJ/5MG/5ML	4	0.2013	0.2436	82.7%				
00008021201	PHENERGAN/QA/25MG	9	3.9181	4.9209	79.6%	3.9927	4.0000	99.8%	
00378156010	PHENYTOIN SODIUM, EXTENDED/CA/100MG	9	0.1532	0.2724	56.3%				
00378156001	PHENYTOIN SODIUM, EXTENDED/CA/100MG	76	0.1562	0.2688	58.1%				
00472006708	PHENYTOIN/SC/125MG/5ML	8	0.0922	0.1388	66.4%				
58177000109	POTASSIUM CHLORIDE/CS/10MEQ	13	0.0995	0.2539	39.3%				
58177000108	POTASSIUM CHLORIDE/CS/10MEQ	14	0.1034	0.2593	39.9%				
58177000111	POTASSIUM CHLORIDE/CS/10MEQ	4	0.1124	0.3391	33.1%				
58177000104	POTASSIUM CHLORIDE/CS/10MEQ	60	0.1069	0.2968	36.1%				
00472100016	POTASSIUM CHLORIDE/SL/20MEQ/15ML	28	0.0036	0.0140	25.8%				
59930171401	POTASSIUM CHLORIDE/TQ/20MEQ	6	0.1974	0.5050	39.1%	0.1899	0.4510	42.1%	
00006020758	PRINIVIL/TA/20MG	10	0.9509	1.1945	79.6%				
59676031001	PROCRIT/HV/10000 U/mL	4	106.0946	133.5600	79.4%				
59676031201	PROCRIT/HV/10000 U/mL	2	103.7792	133.5600	77.7%				

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Comparison to SMAC Price - if applicable (Only applies to April 2003 Invoices)										
NDC Number	Description	No. of Obs.	Average Actual Acquisition Cost		AWP	Average Acquisition Cost as % of AWP	Comparison to SMAC Price - if applicable (Only applies to April 2003 Invoices)			
			Average Actual Acquisition Cost	Average Acquisition Cost as % of AWP			Average Actual Acquisition Cost (April 2003 Invoices Only)	April 2003 SMAC (if applicable)	Average Acquisition Cost as % of SMAC	
A	B	C	D	E	F	G	H	I		
59676032001	PROCRIT/HV/20000 U/ML	2	206.1733	267.1200	77.2%					
59676034001	PROCRIT/HV/40000 U/ML	5	423.5955	534.2400	79.3%					
00641149535	PROMETHAZINE HCL/HH/25MG/ML	6	1.8742	2.3840	78.6%					
00781183001	PROMETHAZINE HCL/TA/25MG	71	0.2633	0.4279	61.8%					
00781183010	PROMETHAZINE HCL/TA/25MG	12	0.2704	0.4321	62.8%					
00713052612	PROMETHEGAN/QA/25MG	40	2.5710	3.7500	68.8%	2.6406	4.0000	66.0%		
00781285560	RANITIDINE HCL/CA/150MG	10	0.3539	1.5211	23.3%	0.3517	0.8090	43.5%		
00781285505	RANITIDINE HCL/CA/150MG	1	0.3336	1.4755	22.6%					
00781286531	RANITIDINE HCL/CA/300MG	6	0.6194	2.7433	22.6%	0.6053	1.4590	41.5%		
00781286505	RANITIDINE HCL/CA/300MG	1	0.5931	2.6611	22.3%					
00078024115	SANDIMMUNE/CA/100MG	2	5.7467	6.9326	82.9%					
00093106101	SOTALOL/TA/80MG	24	0.1686	2.3472	7.2%	0.1450	0.4451	32.6%		
59702006001	SUDAL/TM/500-60MG	11	0.3143	0.3938	79.8%					
00048107003	SYNTHROID/TA/100MCG	106	0.3340	0.4201	79.5%					
00048107005	SYNTHROID/TA/100MCG	7	0.2879	0.3626	79.4%					
00048113003	SYNTHROID/TA/125MCG	93	0.3901	0.4920	79.3%					
00048109003	SYNTHROID/TA/150MCG	68	0.4022	0.5069	79.4%					
00048110003	SYNTHROID/TA/175MCG	28	0.4797	0.6030	79.6%					
00048114003	SYNTHROID/TA/200MCG	31	0.4816	0.6041	79.7%					
00048102003	SYNTHROID/TA/25MCG	44	0.2575	0.3268	78.8%					
00048104003	SYNTHROID/TA/50MCG	98	0.2959	0.3716	79.6%					
00048105003	SYNTHROID/TA/75MCG	92	0.3259	0.4103	79.4%					
00555044609	TAMOXIFEN CITRATE/TA/10MG	46	1.5611	2.0265	77.0%					
00555044663	TAMOXIFEN CITRATE/TA/10MG	19	1.5626	2.0266	77.1%					
00555090401	TAMOXIFEN CITRATE/TA/20MG	35	3.0453	4.0454	75.2%					
00083001976	TEGRETOL/SC/100MG/5ML	8	0.0660	0.0833	79.2%	0.0677	0.0837	80.9%		
00456261390	TIACAC/CS/180MG	17	1.0721	1.3525	79.3%	1.0932	0.9300	117.5%		
00456261490	TIACAC/CS/240MG	16	1.5252	1.9301	79.0%	1.5538	1.9500	79.7%		
00456261430	TIACAC/CS/240MG	16	1.6410	2.1208	77.4%	1.6089	1.9500	82.5%		
00456261590	TIACAC/CS/300MG	12	1.9678	2.4738	79.5%	2.0273	2.5273	80.2%		
61314022505	TIMOLOL MALEATE/US/0.5%	86	3.8380	6.2051	61.9%	3.9244	5.8800	66.7%		

Acquisition Cost Summary by Drug
Top 200 Multi-Source Drug Products without an FUL Price
Kentucky Medicaid
(Limited to Observations from External Invoices)

					Comparison to SMAC Price - if applicable (Only applies to April 2003 Invoices)			
NDC Number	Description	No. of Obs.	Average Actual Acquisition Cost	AWP	Average Acquisition Cost as % of AWP	Average Actual Acquisition Cost (April 2003 Invoices Only)	April 2003 SMAC (if applicable)	Average Acquisition Cost as % of SMAC
A	B	C	D	E	F	G	H	I
00093712901	TORSEMIDE/TA/20MG	56	0.5641	0.8208	68.7%	0.5757	0.9234	62.3%
00003173845	TRIMOX 250/PD/250MG/5ML	46	0.0144	0.0472	30.4%			
00003173840	TRIMOX 250/PD/250MG/5ML	19	0.0167	0.0609	27.4%			
58914000410	ULTRASE MT 20/CE/65-20-65	3	1.3521	1.7114	79.0%			
00085073604	VANCERIL/AJ/42MCG	11	2.3696	2.9710	79.8%			
00555083102	WARFARIN SODIUM/TA/1MG	32	0.1895	0.5834	32.5%	0.2275	0.5241	43.4%
00555086902	WARFARIN SODIUM/TA/2MG	40	0.1861	0.6089	30.6%	0.2035	0.5469	37.2%
00555092502	WARFARIN SODIUM/TA/3MG	31	0.2158	0.6307	34.2%	0.2205	0.5843	37.7%
00555083302	WARFARIN SODIUM/TA/5MG	97	0.1873	0.6368	29.4%	0.2014	0.5720	35.2%
59075059215	ZANAFLEX/TA/2MG	3	1.0783	1.3577	79.4%			
59075059415	ZANAFLEX/TA/4MG	6	1.2989	1.6280	79.8%			
00310014510	ZESTORETIC/TA/20-25MG	4	1.0777	1.3511	79.8%			
00310013110	ZESTRIL/TA/10MG	12	0.8809	1.1052	79.7%			
00310013210	ZESTRIL/TA/20MG	7	0.9423	1.1899	79.2%			

Explanation of Columns**A:** National Drug Code Number**B:** Product Description**C:** Number of invoice line items observed.**D:** Average acquisition cost per unit observed in the invoices.**E:** Average of October 2002 and April 2003 AWP per unit weighted by quantity purchased.**F:** Average acquisition cost as % of AWP.**G:** Average acquisition cost per unit observed in April 2003 invoices.**H:** April 2003 SMAC price per unit.**I:** Average acquisition cost as % of SMAC price.

Acquisition Cost Summary by Drug
Top 200 Multi-Source Drug Products with an FUL Price
Kentucky Medicaid
(Limited to Observations from External Invoices)

NDC Number	Description	No. of Obs.	Average Actual Acquisition Cost	AWP	Average Acquisition Cost as % of AWP	FUL	Average Acquisition Cost as % of FUL
A							
B							
00093015010	ACETAMINOPHEN W/CODEINE/TA/30-300MG	26	0.0764	0.2843	26.9%	0.2137	35.7%
00406048410	ACETAMINOPHEN W/CODEINE/TA/30-300MG	10	0.0739	0.2843	26.0%	0.2137	34.6%
59930150008	ALBUTEROL SULFATE/SA/0.83MG/ML	53	0.0454	0.4033	11.3%	0.1450	31.3%
49502069703	ALBUTEROL SULFATE/SA/0.83MG/ML	53	0.0457	0.4033	11.3%	0.1450	31.5%
49502069760	ALBUTEROL SULFATE/SA/0.83MG/ML	21	0.0520	0.4033	12.9%	0.1450	35.9%
59930150006	ALBUTEROL SULFATE/SA/0.83MG/ML	6	0.0470	0.4033	11.6%	0.1450	32.4%
49502069733	ALBUTEROL SULFATE/SA/0.83MG/ML	22	0.0478	0.4033	11.9%	0.1450	33.0%
59930151504	ALBUTEROL SULFATE/SA/5MG/ML	17	0.1236	0.7495	16.5%	0.3360	36.8%
59930156001	ALBUTEROL/AB/90MCG	266	0.1959	1.2594	15.6%	0.8823	23.5%
00172439018	ALBUTEROL/AB/90MCG	18	0.2058	1.7524	11.7%	0.8823	23.3%
62037079444	ALBUTEROL/AB/90MCG	11	0.1948	1.7559	11.1%	0.8823	22.1%
00781120360	AMIODARONE HCL/TA/200MG	5	0.3303	3.2989	10.0%	1.9907	16.6%
00185014460	AMIODARONE HCL/TA/200MG	14	0.2664	3.3818	7.9%	1.9907	13.4%
00093913306	AMIODARONE HCL/TA/200MG	43	0.3142	3.3025	9.5%	1.9907	15.8%
63304065505	AMOXICILLIN/CA/500MG	7	0.0537	0.3936	13.6%	0.1272	42.2%
00781107801	ATENOLOL/TA/25MG	32	0.0285	0.7637	3.7%	0.0798	38.2%
00781107810	ATENOLOL/TA/25MG	26	0.0273	0.7080	3.8%	0.0840	34.7%
00781150610	ATENOLOL/TA/50MG	6	0.0288	0.7208	3.9%	0.0604	47.5%
65726014415	AXID/CA/150MG	4	2.5230	3.0597	82.5%	1.8307	138.3%
00172409660	BACLOFEN/TA/10MG	15	0.1494	0.6101	24.5%	0.0898	166.4%
00172409760	BACLOFEN/TA/20MG	13	0.3330	1.0963	30.4%	0.1688	197.2%
00591065801	BUSPIRONE HCL/TA/10MG	13	0.0963	1.3450	7.2%	0.3942	23.6%
00591065805	BUSPIRONE HCL/TA/10MG	1	0.0756	1.3047	5.8%	0.3942	19.2%
00378116591	BUSPIRONE HCL/TA/15MG	17	0.1504	2.0192	7.4%	0.4470	35.3%
00378116580	BUSPIRONE HCL/TA/15MG	7	0.1413	1.9906	7.1%	0.4470	32.6%
51079096020	BUSPIRONE HCL/TA/15MG	3	0.1771	2.0190	8.8%	0.4470	39.6%
00093010901	CARBAMAZEPINE/TA/200MG	1	0.0638	0.3017	21.1%	0.1388	46.0%
51672400503	CARBAMAZEPINE/TA/200MG	5	0.0589	0.4105	14.4%	0.1388	42.5%
00093029301	CARBIDOPA/LEVODOPA/TA/25-100MG	6	0.2430	0.8002	30.4%	0.3915	62.1%
60951060568	CARBIDOPA/LEVODOPA/TA/25-100MG	12	0.1952	0.8002	24.4%	0.3915	49.9%

Acquisition Cost Summary by Drug
Top 200 Multi-Source Drug Products with an FUL Price
Kentucky Medicaid
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NDC Number	Description	No. of Obs.	Average Actual Acquisition Cost	AWP	Average Acquisition Cost as % of AWP	FUL	Average Acquisition Cost as % of FUL
A	B	C	D	E	F	G	H
63304095602	CEFACLORIPD/250MG/5ML	26	0.0688	0.3453	19.9%	0.2995	23.0%
00093314505	CEPHALEXIN/CA/250MG	7	0.1331	0.6239	21.3%	0.2513	53.0%
00093314705	CEPHALEXIN/CA/500MG	41	0.2308	1.2259	18.8%	0.4446	51.9%
00093314701	CEPHALEXIN/CA/500MG	36	0.2371	1.3760	17.2%	0.4446	53.3%
63304065705	CEPHALEXIN/CA/500MG	5	0.1757	1.2259	14.3%	0.4446	39.5%
00378037205	CIMETIDINE/TA/400MG	3	0.0754	1.4700	5.1%	0.1537	49.0%
59762332801	CLINDAMYCIN HCL/CA/150MG	6	0.1715	1.1911	14.4%	0.9180	18.7%
00093083201	CLONAZEPAM/TA/0.5MG	35	0.0172	0.7490	2.3%	0.2455	7.0%
00228300311	CLONAZEPAM/TA/0.5MG	88	0.0210	0.7491	2.8%	0.2455	8.6%
00228300350	CLONAZEPAM/TA/0.5MG	8	0.0203	0.7106	2.9%	0.2455	8.3%
00093083301	CLONAZEPAM/TA/1MG	23	0.0271	0.8550	3.2%	0.2852	9.5%
00228300411	CLONAZEPAM/TA/1MG	93	0.0339	0.8551	4.0%	0.2852	11.9%
00228300450	CLONAZEPAM/TA/1MG	8	0.0335	0.8127	4.1%	0.2852	11.8%
00093083401	CLONAZEPAM/TA/2MG	19	0.0365	1.1840	3.1%	0.3903	9.4%
00378015210	CLONIDINE HCL/TA/0.1MG	9	0.0518	0.2084	24.9%	0.0930	55.8%
00378015201	CLONIDINE HCL/TA/0.1MG	61	0.0584	0.2160	27.0%	0.0915	63.9%
00228212750	CLONIDINE HCL/TA/0.1MG	1	0.0501	0.2269	22.1%	0.0968	51.8%
00591565810	CYCLOBENZAPRINE HCL/TA/10MG	17	0.0673	0.9415	6.8%	0.0858	78.5%
00591565801	CYCLOBENZAPRINE HCL/TA/10MG	73	0.0286	1.0160	2.8%	0.0858	33.4%
00074568216	DEPAKENE/ST/250MG/5ML	3	0.0248	0.4091	6.1%	0.0594	41.8%
00781178901	DICLOFENAC SODIUM/TE/75MG	67	0.0779	1.0645	7.3%	0.5850	13.3%
60432003316	DIPHEN AF/SL/12.5MG/5ML	2	0.0047	0.0138	34.1%	0.0137	34.3%
58177026804	DOXAZOSIN MESYLATE/TA/4MG	2	0.0651	1.0011	6.5%	0.6210	10.5%
00378641001	DOXEPIH HCL/CA/100MG	8	0.1033	0.9980	10.3%	0.4174	24.7%
00472136016	ENULOSE/ST/10G/15ML	9	0.0097	0.0757	12.8%	0.0219	44.3%
00781173601	FAMOTIDINE/TA/20MG	1	0.0681	1.7380	3.9%	0.6210	11.0%
49884060801	FAMOTIDINE/TA/20MG	53	0.0542	1.7350	3.1%	0.6210	8.7%
00555087702	FLUOXETINE HCL/CA/20MG	2	0.1241	2.6681	4.7%	0.6000	24.2%
00406066301	FLUOXETINE HCL/CA/20MG	15	0.0425	2.6640	1.6%	0.6000	7.0%
00406066305	FLUOXETINE HCL/CA/20MG	3	0.0363	2.5308	1.4%	0.6000	6.0%

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A		C	D	E	F	G	H
49884073301	FLUOXETINE HCL/CA/20MG	139	0.0452	2.6681	1.7%	0.6000	8.0%
49884073310	FLUOXETINE HCL/CA/20MG	2	0.0400	2.6655	1.5%	0.6000	6.7%
49884074311	FLUOXETINE HCL/CA/40MG	75	1.6954	5.3364	31.8%	4.0125	41.6%
49884074301	FLUOXETINE HCL/CA/40MG	6	1.2120	5.3356	22.7%	4.0125	30.1%
49884073401	FLUOXETINE HCL/TA/10MG	3	0.0620	2.7310	2.3%	0.6000	10.3%
49884073411	FLUOXETINE HCL/TA/10MG	11	0.0717	2.7310	2.6%	0.6000	13.6%
00591521610	FOLIC ACID/TA/1MG	14	0.0069	0.0260	26.5%	0.0456	15.1%
60432061360	FUROSEMIDE/SJ/10MG/ML	8	0.0604	0.1733	34.8%	0.1300	46.4%
00378020810	FUROSEMIDE/TA/20MG	20	0.0373	0.1399	26.7%	0.0563	66.3%
00172290880	FUROSEMIDE/TA/20MG	2	0.0312	0.1586	19.7%	0.0563	55.4%
00378020801	FUROSEMIDE/TA/20MG	36	0.0394	0.1430	27.5%	0.0563	69.9%
00054829725	FUROSEMIDE/TA/20MG	9	0.0226	0.1716	13.2%	0.0563	41.5%
00378021610	FUROSEMIDE/TA/40MG	43	0.0382	0.1595	23.9%	0.0599	63.8%
00781196610	FUROSEMIDE/TA/40MG	6	0.0360	0.1403	25.6%	0.0599	60.0%
00054829925	FUROSEMIDE/TA/40MG	5	0.0285	0.1956	14.6%	0.0599	47.5%
00054429931	FUROSEMIDE/TA/40MG	2	0.0184	0.1595	11.5%	0.0599	30.7%
00378023205	FUROSEMIDE/TA/80MG	13	0.0594	0.4278	13.9%	0.0954	62.4%
00378023201	FUROSEMIDE/TA/80MG	43	0.0620	0.4370	14.2%	0.0939	66.2%
00093067005	GEMFIBROZIL/TA/600MG	29	0.1773	1.1874	14.9%	0.2307	76.6%
00093067006	GEMFIBROZIL/TA/600MG	76	0.1688	1.2467	13.5%	0.2195	76.8%
00093936410	GLYBURIDE/TA/5MG	6	0.0990	0.6606	15.0%	0.2831	34.5%
59762372707	GLYBURIDE/TA/5MG	9	0.0976	0.6605	14.8%	0.2831	30.3%
00093834410	GLYBURIDE/TA/5MG	11	0.0933	0.6606	14.1%	0.2831	33.3%
00093936401	GLYBURIDE/TA/5MG	28	0.1181	0.7770	15.2%	0.2831	33.2%
59762372706	GLYBURIDE/TA/5MG	5	0.0890	0.6826	13.0%	0.2831	32.0%
00378116001	GUANFACINE HCL/TA/1MG	3	0.1064	0.8720	12.2%	0.5250	20.3%
00591044401	GUANFACINE HCL/TA/1MG	10	0.0980	0.8720	11.2%	0.5250	18.7%
00591054001	HYDROCODONE W/ACETAMINOPHEN/TA/10-500MG	187	0.1201	0.5327	22.5%	0.4603	26.1%
00406036301	HYDROCODONE W/ACETAMINOPHEN/TA/10-500MG	3	0.1490	0.5327	28.0%	0.4603	32.4%
00591054005	HYDROCODONE W/ACETAMINOPHEN/TA/10-500MG	41	0.1509	0.5060	29.8%	0.4603	32.8%

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A							
B							
52544054001	HYDROCODONE W/ACETAMINOPHEN/TA/10-500MG	54	0.1550	0.5327	29.1%	0.4603	33.7%
00406035705	HYDROCODONE W/ACETAMINOPHEN/TA/5-500MG	64	0.0264	0.1968	13.4%	0.1153	22.9%
00591038505	HYDROCODONE W/ACETAMINOPHEN/TA/7.5-500MG	140	0.0467	0.5149	9.1%	0.1913	24.4%
00406035801	HYDROCODONE W/ACETAMINOPHEN/TA/7.5-500MG	2	0.0714	0.4284	16.7%	0.1913	37.3%
00591050205	HYDROCODONE W/ACETAMINOPHEN/TA/7.5-650MG	26	0.0522	0.5850	8.9%	0.1550	33.6%
52544034905	HYDROCODONE/ACETAMINOPHEN/TA/5-500MG	3	0.0489	0.4649	10.5%	0.1153	42.4%
00591034905	HYDROCODONE/ACETAMINOPHEN/TA/5-500MG	109	0.0351	0.4649	7.6%	0.1153	30.5%
00168001531	HYDROCODORTISONE/KA/1%	13	0.0329	0.1140	28.9%	0.0585	56.3%
00781140701	HYDROXYCHLOROQUINE SULFATE/TA/200MG	49	0.2059	1.0956	18.8%	0.8535	24.1%
00555032302	HYDROXYZINE PAMOATE/CA/25MG	42	0.0497	0.2994	16.6%	0.0675	73.3%
49884046805	IBUPROFEN/TA/600MG	3	0.0229	0.2403	9.5%	0.0573	40.0%
59762737902	IBUPROFEN/TA/600MG	1	0.0237	0.2403	9.9%	0.0573	41.4%
62175010701	ISOSORBIDE MONONITRATE/TA/20MG	24	0.1199	0.8125	14.8%	0.4950	24.1%
59930154901	ISOSORBIDE MONONITRATE/TA/60MG	127	0.0542	1.1740	4.6%	0.7492	7.2%
62175011937	ISOSORBIDE MONONITRATE/TA/60MG	3	0.0611	1.5242	4.0%	0.7492	8.2%
58177023804	ISOSORBIDE MONONITRATE/TA/60MG	6	0.0589	1.3590	4.3%	0.7492	7.9%
00378207401	LISINOPRIL/TA/10MG	129	0.1128	0.9940	11.3%	0.5970	17.9%
00185010101	LISINOPRIL/TA/10MG	35	0.0962	1.0042	9.6%	0.5970	16.1%
00378207501	LISINOPRIL/TA/20MG	151	0.1597	1.0640	15.0%	0.6390	28.9%
63304053401	LISINOPRIL/TA/20MG	11	0.1429	1.0751	13.3%	0.6390	21.9%
63304053501	LISINOPRIL/TA/40MG	8	0.2364	1.5720	15.0%	0.9345	24.9%
00378207601	LISINOPRIL/TA/40MG	66	0.2468	1.5560	15.9%	0.9345	28.5%
00378207301	LISINOPRIL/TA/5MG	80	0.0869	0.9625	9.0%	0.5783	16.5%
00185540001	LISINOPRIL/TA/5MG	23	0.0722	0.9725	7.4%	0.5783	12.5%
00781140305	LORAZEPAM/TA/0.5MG	2	0.0638	0.6252	10.2%	0.4350	14.7%
00378032105	LORAZEPAM/TA/0.5MG	3	0.0498	0.6622	7.5%	0.4350	11.4%
00378045710	LORAZEPAM/TA/1MG	2	0.2195	0.8432	26.0%	0.5718	38.4%
00378045701	LORAZEPAM/TA/1MG	2	0.0595	0.8825	6.7%	0.5718	10.4%
00781140405	LORAZEPAM/TA/1MG	1	0.0687	0.8105	8.5%	0.5718	12.0%
49884003510	MECLIZINE HCL/TA/25MG	19	0.0244	0.0980	24.9%	0.0717	34.1%

Acquisition Cost Summary by Drug
Top 200 Multi-Source Drug Products with an FUL Price
Kentucky Medicaid
(Limited to Observations from External Invoices)

NDC Number	Description	No. of Obs.	Average Actual Acquisition Cost	AWP	Average Acquisition Cost as % of AWP	FUL	Average Acquisition Cost as % of FUL
A	B	C	D	E	F	G	H
00555057202	METHOTREXATE/TA/2.5MG	48	0.2563	3.5640	7.2%	1.2637	20.3%
00406112201	METHYLIN/TA/10MG	6	0.1287	0.4772	27.0%	0.4224	30.5%
00406112101	METHYLIN/TA/5MG	2	0.0797	0.3339	23.9%	0.3020	26.4%
60432062216	METOCLOPRAMIDE HCL/SJ/5MG/5ML	12	0.0081	0.0407	20.0%	0.0155	52.5%
50111043002	METOCLOPRAMIDE HCL/TA/10MG	27	0.0495	0.2600	19.0%	0.1095	45.2%
50111043003	METOCLOPRAMIDE HCL/TA/10MG	8	0.0494	0.2150	23.0%	0.1095	45.1%
00228226950	METOCLOPRAMIDE HCL/TA/10MG	3	0.0692	0.2605	26.6%	0.1095	63.2%
50111051702	METOCLOPRAMIDE HCL/TA/5MG	7	0.0537	0.2760	19.5%	0.1842	29.1%
50111051701	METOCLOPRAMIDE HCL/TA/5MG	37	0.0575	0.3200	18.0%	0.1842	31.2%
00378003210	METOPROLOL TARTRATE/TA/50MG	20	0.0273	0.5443	5.0%	0.0703	38.8%
00093073310	METOPROLOL TARTRATE/TA/50MG	1	0.0331	0.5443	6.1%	0.0703	47.1%
00591569550	MINOCYCLINE HCL/CA/100MG	39	0.3500	2.7004	12.5%	0.7875	44.5%
00093014901	NAPROXEN/TA/500MG	7	0.1050	1.2990	8.1%	0.1792	58.6%
00378045105	NAPROXEN/TA/500MG	33	0.0995	1.1928	8.3%	0.1795	55.4%
55370014108	NAPROXEN/TA/500MG	17	0.0698	1.1927	5.9%	0.1798	38.8%
00093014905	NAPROXEN/TA/500MG	7	0.0996	1.1928	8.3%	0.1792	55.6%
24208079062	NEOMYCIN/POLYMYXIN/GRAMICIDIN/SOI	15	1.6264	2.8600	56.9%	2.2185	73.3%
00472132016	NYSTATIN/SC/100K U/ML	2	0.0953	0.2060	46.2%	0.1304	85.9%
60432053716	NYSTATIN/SC/100K U/ML	39	0.0981	0.2032	48.3%	0.1106	98.6%
00378335801	ORPHENADRINE CITRATE/TS/100MG	16	0.2297	2.1750	10.6%	1.8225	12.6%
00591283001	ORPHENADRINE CITRATE/TS/100MG	1	0.2000	2.1745	9.2%	1.8225	11.0%
00781164901	ORPHENADRINE CITRATE/TS/100MG	13	0.1761	2.0767	8.5%	1.8225	9.7%
00245014760	PACERONE/TA/200MG	21	0.5941	3.5308	16.8%	1.9907	29.8%
00093511601	PENTOXIFYLLINE/TS/400MG	70	0.0905	0.5950	15.2%	0.3147	28.8%
00591532101	PRIMIDONE/TA/250MG	8	0.4173	0.9960	41.9%	0.6405	65.2%
00006010658	PRINIVIL/TA/10MG	12	0.8497	1.1158	76.1%	0.5970	148.0%
00006023758	PRINIVIL/TA/40MG	2	1.3905	1.7467	79.6%	0.9345	148.5%
00378015505	PROPOXYPHENE NAPSYLATE W/APAP/TA/100-650	77	0.0685	0.5723	12.0%	0.2250	30.4%
00093089005	PROPOXYPHENE NAPSYLATE W/APAP/TA/100-650	2	0.0999	0.5345	18.7%	0.2250	44.4%
00172498070	PROPOXYPHENE NAPSYLATE W/APAP/TA/100-650	4	0.0645	0.5720	11.3%	0.2250	28.7%

Acquisition Cost Summary by Drug
Top 200 Multi-Source Drug Products with an FUL Price
Kentucky Medicaid
(Limited to Observations from External Invoices)

NDC Number	Description	No. of Obs.	Average Actual Acquisition Cost	AWP	Average Acquisition Cost as % of AWP	FUL	Average Acquisition Cost as % of FUL
A							
B							
00093049005	PROPOXYPHENE NAPSYLATE W/APAP/TA/100-650	2	0.0717	0.5345	13.4%	0.2250	31.9%
00378115505	PROPOXYPHENE NAPSYLATE W/APAP/TA/100-650	1	0.0682	0.5722	11.9%	0.2250	30.3%
60505002508	RANITIDINE HCL/TA/150MG	40	0.0431	1.4800	2.9%	0.3411	12.6%
00781188310	RANITIDINE HCL/TA/150MG	1	0.2251	1.4800	15.2%	0.3411	66.0%
60505002504	RANITIDINE HCL/TA/150MG	113	0.0436	1.4800	2.9%	0.3411	12.8%
49884054405	RANITIDINE HCL/TA/150MG	20	0.0548	1.5600	3.5%	0.3411	16.1%
49884054410	RANITIDINE HCL/TA/150MG	7	0.0535	1.5280	3.5%	0.3411	15.7%
00781188305	RANITIDINE HCL/TA/150MG	1	0.0392	1.4800	2.6%	0.3411	11.5%
00093854410	RANITIDINE HCL/TA/150MG	10	0.0758	1.4800	5.1%	0.3411	22.2%
51079087920	RANITIDINE HCL/TA/150MG	2	0.1362	1.5860	8.6%	0.3411	39.9%
49884054402	RANITIDINE HCL/TA/150MG	25	0.0609	1.5883	3.8%	0.3411	17.8%
49884054501	RANITIDINE HCL/TA/300MG	9	0.1138	2.8670	4.0%	0.3180	35.8%
60505002607	RANITIDINE HCL/TA/300MG	12	0.0953	2.6870	3.5%	0.3180	30.0%
00378214605	SPIRONOLACTONE/TA/25MG	22	0.1763	0.4364	40.4%	0.3000	58.8%
00378214601	SPIRONOLACTONE/TA/25MG	40	0.1892	0.4590	41.2%	0.3000	63.1%
00093221001	SUCRALFATE/TA/1G	1	0.1495	0.7295	20.5%	0.3690	40.5%
00093221005	SUCRALFATE/TA/1G	1	0.1112	0.7081	15.7%	0.3690	30.1%
00093008905	SULFAMETHOXAZOLE/TRIMETHOPRIM/TA/800-160	20	0.0664	0.9033	7.3%	0.1590	41.7%
53489014605	SULFAMETHOXAZOLE/TRIMETHOPRIM/TA/800-160	4	0.0707	0.8894	7.9%	0.1590	44.5%
00472128516	SULFATRIM/SC/200-40MG/5	29	0.0554	0.1225	45.2%	0.0234	236.6%
00083002730	TEGRETOL/TA/200MG	31	0.4555	0.5727	79.5%	0.1388	328.2%
00781205401	TERAZOSIN HCL/CA/10MG	15	0.1314	1.6038	8.2%	1.5413	8.5%
00781205101	TERAZOSIN HCL/CA/1MG	9	0.1296	1.6038	8.1%	1.5413	8.4%
00781205201	TERAZOSIN HCL/CA/2MG	27	0.1327	1.6038	8.3%	1.5413	8.6%
00781205301	TERAZOSIN HCL/CA/5MG	48	0.1312	1.6038	8.2%	1.5413	8.5%
60505002704	TICLOPIDINE HCL/TA/250MG	3	0.1696	1.8661	9.1%	1.5119	11.2%
49884078253	TIZANIDINE HCL/TA/2MG	29	0.5666	1.2218	46.4%	0.8071	63.9%
00093516351	TIZANIDINE HCL/TA/2MG	1	0.5697	1.2218	46.6%	0.8856	64.3%
49884078353	TIZANIDINE HCL/TA/4MG	76	0.7541	1.4651	51.5%	0.9560	69.4%
00185440051	TIZANIDINE HCL/TA/4MG	18	0.7733	1.4652	52.8%	0.9560	69.8%

Acquisition Cost Summary by Drug
Top 200 Multi-Source Drug Products with an FUL Price
Kentucky Medicaid
(Limited to Observations from External Invoices)

NDC Number	Description	No. of Obs.	Average Actual Acquisition Cost	AWP	Average Acquisition Cost as % of AWP	FUL	Average Acquisition Cost as % of FUL
A	B	C	D	E	F	G	H
00093516051	TIZANIDINE HCL/TA/4MG	6	0.6422	1.4651	43.8%	0.9560	61.8%
50111044101	TRAZODONE HCL/TA/150MG	8	0.1313	1.4691	8.9%	0.3113	42.2%
00781207410	TRIAMTERENE WHCTZ/CA/37.5-25MG	17	0.0557	0.3607	15.4%	0.3177	17.5%
00781207401	TRIAMTERENE WHCTZ/CA/37.5-25MG	76	0.0474	0.3753	12.6%	0.3177	14.9%
00378253710	TRIAMTERENE WHCTZ/CA/37.5-25MG	1	0.0617	0.3823	16.1%	0.3177	19.4%
00781112301	TRIAMTERENE WHCTZ/TA/37.5-25MG	80	0.0518	0.3395	15.2%	0.1932	26.8%
00003713745	TRIMOX 125/125MG/5ML	2	0.0123	0.0274	44.7%	0.0201	60.9%
00003010960	TRIMOX/CA/500MG	12	0.0581	0.3806	15.3%	0.1272	45.6%
00045065960	ULTRAM/TA/50MG	39	0.7661	0.9623	79.6%	0.3068	275.4%
00045065970	ULTRAM/TA/50MG	10	0.7946	0.9982	79.6%	0.3068	276.0%
00045065910	ULTRAM/TA/50MG	2	0.8726	1.0979	79.6%	0.3068	296.6%
60432062116	VALPROIC ACID/ST/250MG/5ML	11	0.0228	0.1538	14.9%	0.0594	38.5%
00093963316	VALPROIC ACID/ST/250MG/5ML	1	0.0199	0.1516	13.1%	0.0594	33.5%
00378041105	VERAPAMIL HCL/TS/240MG	8	0.1890	1.5411	12.3%	0.3604	52.4%
00172428070	VERAPAMIL HCL/TS/240MG	7	0.2029	1.5834	12.7%	0.3619	55.9%
00310014110	ZESTORETIC/TA/10-12.5MG	4	0.9881	1.2453	79.4%	0.6450	156.2%
00310014210	ZESTORETIC/TA/20-12.5MG	4	1.0648	1.3350	79.8%	1.6368	65.1%
00310013310	ZESTRIL/TA/30MG	2	1.3499	1.7078	79.0%	0.9038	152.8%
00310013410	ZESTRIL/TA/40MG	2	1.3978	1.7642	79.2%	0.9345	151.5%
00310013010	ZESTRIL/TA/5MG	8	0.8587	1.0807	79.5%	0.5783	152.1%

Explanation of Columns

- A: National Drug Code Number
B: Product Description
C: Number of invoice line items observed.
D: Average acquisition cost per unit observed in the invoices.
E: Average of October 2002 and April 2003 AWP per unit weighted by quantity purchased.
F: Average acquisition cost as % of AWP.
G: Average of October 2002 and April 2003 FUL price per unit weighted by quantity purchased.
H: Average acquisition cost as % of FUL price.

Pharmacy Acquisition Cost Survey Data
Statistical Summary of Acquisition Costs as a Percent of the Average Wholesale Price
Single Source Drug Products
Kentucky Medicaid

Characteristic	General Statistics					Percentiles			95% Confidence Interval for Mean (based on Student t)	
	Number of Observations	n: Number of Pharmacies / Drug Products	Mean (Unweighted)	Mean (Weighted by Medicaid Drug Utilization)	Standard Deviation	Standard Error of the Mean	20%	50%	80%	
Distributions by Pharmacy¹										
Single Source Drug Products (as % of the Average Wholesale Price) - Includes Internal Invoices	52,621	149	79.8%	See Note (1)	1.5%	0.1%	79.1%	79.8%	80.1%	1.98
All Pharmacies										
Single Source Drug Products (as % of the Average Wholesale Price) - External Invoices Only	32,692	130	79.4%	See Note (1)	1.2%	0.1%	79.0%	79.7%	80.0%	1.98
Institutional and Retail	1,717	11	76.8%	See Note (1)	1.9%	0.6%	75.4%	76.1%	78.0%	2.23
Retail	30,975	119	79.7%	See Note (1)	0.7%	0.1%	79.2%	79.7%	80.0%	1.98
By Total Annual Prescription Volume:										
0 to 49,999	13,046	65	79.6%	See Note (1)	1.1%	0.1%	79.1%	79.8%	80.0%	2.00
50,000 to 99,999	16,586	46	79.4%	See Note (1)	0.7%	0.1%	79.1%	79.5%	79.9%	2.01
100,000 and Higher	2,506	16	78.7%	See Note (1)	1.8%	0.5%	77.0%	79.0%	79.8%	2.13
Single Source Drug Products (as % of the Average Wholesale Price) - Retail Pharmacies Only - External Invoices Only	18,203	40	79.9%	See Note (1)	0.5%	0.1%	79.8%	79.9%	80.0%	2.02
Chain	12,772	79	79.5%	See Note (1)	0.7%	0.1%	79.0%	79.4%	79.7%	1.99
Independent	11,316	41	79.8%	See Note (1)	0.6%	0.1%	79.4%	79.8%	80.0%	2.02
Urban (In-state only)	18,864	74	79.6%	See Note (1)	0.7%	0.1%	79.0%	79.6%	80.0%	1.99
Rural (In-state only)										
Distributions by Drug Product²										
Single Source Drug Products (as % of the Average Wholesale Price) - External Invoices Only	32,692	867	78.9%	79.4%	3.8%	0.1%	78.8%	79.5%	79.7%	1.96
All Pharmacies										
Institutional Pharmacies	1,717	508	76.2%	76.6%	4.8%	0.2%	74.5%	77.4%	78.5%	1.96
Retail Pharmacies	30,975	794	79.7%	79.8%	1.7%	0.1%	79.4%	79.6%	79.8%	1.96
Chain Retail Pharmacies	18,203	711	80.0%	80.1%	1.4%	0.1%	79.8%	79.8%	79.9%	1.96
Independent Retail Pharmacies	12,772	744	79.5%	79.5%	1.6%	0.1%	79.1%	79.3%	79.6%	1.96

1) Individual store means are weighted by Medicaid drug utilization, however, distributions of acquisition cost by store are not weighted
2) Individual drug means are not weighted, however, the mean of the distribution of acquisition cost by drug resulting from a weighted calculation is presented.

Pharmacy Acquisition Cost Survey Data
Statistical Summary of Acquisition Costs as a Percent of the Average Wholesale Price
Multi-Source Drug Products Without an FUL
Kentucky Medicaid

Characteristic	General Statistics					Percentiles			95% Confidence Interval for Mean (based on Student t)	
	Number of Observations	n: Number of Pharmacies / Drug Products	Mean (Unweighted)	Mean (Weighted by Medicaid Drug Utilization)	Standard Deviation	Standard Error of the Mean	20%	50%	80%	t Value (with n-1 degrees of freedom)
Distributions by Pharmacy¹										
Multi-Source Drug Products Without an FUL (as % of the Average Wholesale Price) - Includes Internal Invoices	11,784	151	58.3%	See Note (1)	11.9%	1.0%	49.8%	60.2%	67.1%	1.98
All Pharmacies										
Multi-Source Drug Products Without an FUL (as % of the Average Wholesale Price) - External Invoices Only	7,079	132	57.7%	See Note (1)	12.5%	1.1%	48.5%	59.1%	67.6%	1.98
Institutional and Retail										
Institutional	373	11	53.5%	See Note (1)	9.0%	2.7%	42.9%	52.4%	60.1%	2.23
Retail	6,706	121	58.1%	See Note (1)	12.8%	1.2%	48.9%	59.3%	68.0%	1.98
By Total Annual Prescription Volume:										
0 to 49,999	2,777	64	55.7%	See Note (1)	13.5%	1.7%	45.0%	58.5%	65.8%	2.00
50,000 to 99,999	3,672	48	59.9%	See Note (1)	10.9%	1.6%	50.1%	59.6%	69.1%	2.01
100,000 and Higher	504	17	57.5%	See Note (1)	13.0%	3.1%	48.9%	55.7%	68.7%	2.12
Distributions by Drug Product²										
Multi-Source Drug Products Without an FUL (as % of the Average Wholesale Price) - Retail Pharmacies Only - External Invoices Only	4,270	40	58.8%	See Note (1)	9.4%	1.5%	53.6%	58.5%	63.2%	2.02
Chain										
Independent	2,436	81	57.7%	See Note (1)	14.2%	1.6%	44.8%	62.1%	70.1%	1.99
Urban (in-state only)	2,534	42	58.4%	See Note (1)	11.5%	1.8%	51.8%	59.1%	66.9%	2.02
Rural (in-state only)	4,010	75	58.0%	See Note (1)	12.9%	1.5%	46.9%	59.5%	68.2%	1.99
Distributions by Drug Product²										
Multi-Source Drug Products Without an FUL (as % of the Average Wholesale Price) - External Invoices Only	7,079	438	53.2%	55.3%	24.4%	1.2%	28.4%	56.3%	79.4%	1.97
All Pharmacies										
Institutional Pharmacies	373	170	49.6%	53.1%	22.4%	1.7%	25.1%	50.2%	73.5%	1.97
Retail Pharmacies	6,706	410	54.1%	55.9%	24.5%	1.2%	28.9%	57.6%	79.5%	1.97
Chain Retail Pharmacies	4,270	293	58.0%	59.9%	23.4%	1.4%	33.8%	63.8%	79.8%	1.97
Independent Retail Pharmacies	2,436	378	54.3%	55.6%	24.2%	1.2%	30.5%	57.2%	79.1%	1.97

¹ Individual store means are weighted by Medicaid drug utilization, however, distributions of acquisition cost by store are not weighted

² Individual drug means are not weighted, however, the mean of the distribution of acquisition cost by drug resulting from a weighted calculation is presented.

**Pharmacy Acquisition Cost Survey Data
Statistical Summary of Acquisition Costs as a Percent of the Average Wholesale Price
Multi-Source Drug Products With an FUL
Kentucky Medicaid**

Characteristic	General Statistics						Percentiles			95% Confidence Interval for Mean (based on Student t)	
	Number of Observations	n: Number of Pharmacies / Drug Products	Mean (Unweighted)	Mean (Weighted by Medicaid Drug Utilization)	Standard Deviation	Standard Error of the Mean	20%	50%	80%	Lower Bound	Upper Bound
Distributions by Pharmacy¹											
Multi-Source Drug Products With an FUL (as % of the Average Wholesale Price) - Includes Internal Invoices	11,397	147	17.5%	See Note (1)	8.1%	0.7%	12.7%	16.6%	20.1%	16.1%	18.8%
All Pharmacies											1.98
Multi-Source Drug Products With an FUL (as % of the Average Wholesale Price) - External Invoices Only	6,656	128	17.3%	See Note (1)	8.6%	0.8%	12.3%	16.1%	19.4%	15.7%	18.8%
Institutional and Retail	182	11	15.1%	See Note (1)	4.4%	1.3%	11.1%	15.3%	18.2%	12.1%	18.1%
Institutional	6,474	117	17.5%	See Note (1)	8.9%	0.8%	12.3%	16.1%	19.4%	15.8%	19.1%
Retail											1.98
By Total Annual Prescription Volume:											
0 to 49,999	2,686	60	17.2%	See Note (1)	8.1%	1.0%	12.4%	15.8%	19.3%	15.1%	19.2%
50,000 to 99,999	3,337	48	18.1%	See Note (1)	10.0%	1.4%	13.0%	16.5%	19.7%	15.2%	21.0%
100,000 and Higher	550	17	14.9%	See Note (1)	6.4%	1.6%	9.2%	13.9%	17.0%	11.6%	18.2%
Distributions by Drug Product²											
Multi-Source Drug Products With an FUL (as % of the Average Wholesale Price) - Retail Pharmacies Only - External Invoices Only	4,498	38	16.6%	See Note (1)	7.0%	1.1%	12.8%	16.5%	18.9%	14.3%	18.9%
Chain	1,976	79	17.9%	See Note (1)	9.7%	1.1%	11.6%	15.2%	22.6%	15.7%	20.0%
Independent	2,628	42	16.1%	See Note (1)	6.6%	1.0%	11.5%	15.5%	19.2%	14.0%	18.2%
Urban (in-state only)	3,736	72	17.8%	See Note (1)	9.4%	1.1%	12.4%	16.5%	19.8%	15.6%	20.0%
Rural (in-state only)											1.99
Distributions by Drug Product²											
Multi-Source Drug Products With an FUL (as % of the Average Wholesale Price) - External Invoices Only	6,656	309	18.5%	15.2%	17.2%	1.0%	6.7%	13.5%	25.9%	16.6%	20.5%
All Pharmacies											1.97
Institutional Pharmacies	182	95	19.3%	15.0%	15.9%	1.6%	8.1%	13.8%	28.0%	16.1%	22.6%
Retail Pharmacies	6,474	295	18.5%	15.7%	17.1%	1.0%	6.5%	13.9%	25.8%	16.6%	20.5%
Chain Retail Pharmacies	4,498	186	20.7%	17.1%	19.7%	1.4%	7.1%	14.0%	29.2%	17.8%	23.5%
Independent Retail Pharmacies	1,976	276	19.0%	16.6%	16.9%	1.0%	6.7%	14.1%	26.7%	17.0%	21.0%

1) Individual store means are weighted by Medicaid drug utilization, however, distributions of acquisition cost by store are not weighted

2) Individual drug means are not weighted, however, the mean of the distribution of acquisition cost by drug resulting from a weighted calculation is presented.

Pharmacy Acquisition Cost Survey Data
Statistical Summary of Acquisition Costs as a Percent of the Federal Upper Limit
Multi-Source Drug Products With an FUL
Kentucky Medicaid

Characteristic	General Statistics					Percentiles			95% Confidence Interval for Mean (based on Student t)	
	n: Number of Pharmacies	Number of Observations	Mean (Unweighted) Drug Utilization	Mean (Weighted by Medicaid)	Standard Deviation	Standard Error of the Mean	20%	50%	80%	t Value (with n-1 degrees of freedom)
Distributions by Pharmacy¹										
Multi-Source Drug Products With an FUL (as % of the Federal Upper Limit) - Includes Internal Invoices										
All Pharmacies	145	10,126	39.0% See Note (1)		17.7%	1.5%	28.8%	35.6%	48.6%	1.98
Multi-Source Drug Products With an FUL (as % of the Federal Upper Limit) - External Invoices Only										
Institutional and Retail	126	5,385	37.8% See Note (1)		18.6%	1.7%	27.4%	34.2%	44.6%	1.98
Institutional	10	175	38.2% See Note (1)		9.7%	3.1%	30.7%	31.7%	49.1%	2.26
Retail	116	5,210	37.8% See Note (1)		19.2%	1.8%	26.6%	34.4%	42.5%	1.98
By Total Annual Prescription Volume:										
0 to 49,999	58	2,095	39.2% See Note (1)		20.3%	2.7%	28.5%	34.8%	46.9%	2.00
50,000 to 99,999	48	2,683	37.8% See Note (1)		18.4%	2.7%	28.0%	34.6%	41.5%	2.01
100,000 and Higher	17	533	30.6% See Note (1)		10.1%	2.5%	20.7%	30.5%	36.2%	2.12
Multi-Source Drug Products With an FUL (as % of the Federal Upper Limit) - Retail Pharmacies Only - External Invoices Only										
Chain	37	3,420	31.8% See Note (1)		9.6%	1.6%	24.2%	33.0%	36.1%	2.03
Independent	79	1,790	40.6% See Note (1)		21.8%	2.5%	26.4%	35.5%	50.3%	1.99
Urban (in-state only)	42	2,066	37.7% See Note (1)		18.8%	2.9%	25.1%	34.4%	44.0%	2.02
Rural (in-state only)	72	3,051	37.9% See Note (1)		19.8%	2.3%	26.0%	34.2%	42.3%	1.99
Distributions by Drug Product²										
Multi-Source Drug Products With an FUL (as % of the Federal Upper Limit) - External Invoices Only										
All Pharmacies	306	5,385	46.1% 40.4%		51.0%	2.9%	15.9%	33.7%	57.4%	1.97
Institutional Pharmacies	95	175	44.6% 33.5%		53.9%	5.5%	17.5%	32.4%	52.4%	1.99
Retail Pharmacies	291	5,210	45.9% 41.1%		49.8%	2.9%	15.7%	33.9%	58.8%	1.97
Chain Retail Pharmacies	168	3,420	49.0% 40.8%		58.5%	4.5%	15.4%	33.9%	63.0%	1.97
Independent Retail Pharmacies	272	1,790	45.8% 42.6%		44.6%	2.7%	16.4%	34.5%	62.0%	1.97

¹ Individual store means are weighted by Medicaid drug utilization, however, distributions of acquisition cost by store are not weighted

² Individual drug means are not weighted, however, the mean of the distribution of acquisition cost by drug resulting from a weighted calculation is presented.

Pharmacy Acquisition Cost Survey Data
Statistical Summary of Acquisition Costs as a Percent of the Kentucky State Maximum Allowable Cost
Multi-Source Drug Products Without an FUL
Kentucky Medicaid

Characteristic	General Statistics					Percentiles			95% Confidence Interval for Mean (based on Student t)	
	Number of Observations	n: Number of Pharmacies / Drug Products	Mean (Unweighted)	Mean (Weighted by Medicaid Drug Utilization)	Standard Deviation	Standard Error of the Mean	20%	50%	80%	t Value (with n-1 degrees of freedom)
Distributions by Pharmacy¹										
Multi-Source Drug Products Without an FUL (as % of the Kentucky State Maximum Allowable Cost) - Includes Internal Invoices	4,284	85	75.0%	See Note (1)	38.0%	4.1%	54.3%	68.8%	79.9%	1.99
All Pharmacies										
Multi-Source Drug Products Without an FUL (as % of the Kentucky State Maximum Allowable Cost) - External Invoices Only	1,423	66	75.7%	See Note (1)	43.1%	5.3%	50.0%	66.6%	86.1%	2.00
Institutional and Retail	304	8	92.2%	See Note (1)	83.6%	29.6%	44.0%	66.6%	76.0%	2.36
Retail	1,119	58	73.5%	See Note (1)	34.8%	4.6%	50.5%	65.6%	84.7%	2.00
By Total Annual Prescription Volume:										
0 to 49,999	416	30	85.9%	See Note (1)	58.5%	10.7%	49.0%	68.5%	88.7%	2.05
50,000 to 99,999	586	22	70.4%	See Note (1)	23.1%	4.9%	52.5%	62.7%	78.5%	2.08
100,000 and Higher	411	13	63.8%	See Note (1)	16.4%	4.6%	49.0%	56.3%	71.3%	2.18
Distributions by Drug Product²										
Multi-Source Drug Products Without an FUL (as % of the Kentucky State Maximum Allowable Cost) - Retail Pharmacies Only - External Invoices Only	228	12	61.9%	See Note (1)	13.8%	4.0%	50.8%	55.4%	73.2%	2.20
Chain	891	46	76.5%	See Note (1)	38.0%	5.6%	49.6%	67.8%	90.5%	2.01
Independent	315	19	68.5%	See Note (1)	39.0%	8.9%	48.6%	56.5%	75.3%	2.10
Urban (in-state only)	804	39	75.9%	See Note (1)	32.9%	5.3%	52.6%	68.7%	89.1%	2.02
Rural (in-state only)										
Distributions by Drug Product²										
Multi-Source Drug Products Without an FUL (as % of the Kentucky State Maximum Allowable Cost) - External Invoices Only	1,423	458	88.7%	75.4%	100.0%	4.7%	38.2%	58.7%	103.6%	1.97
All Pharmacies										
Institutional Pharmacies	304	183	73.5%	81.7%	66.7%	4.9%	36.3%	53.3%	93.9%	1.97
Retail Pharmacies	1,119	364	94.9%	78.1%	108.8%	5.7%	39.2%	62.4%	108.7%	1.97
Chain Retail Pharmacies	228	111	96.2%	70.6%	104.9%	10.0%	47.8%	63.3%	105.9%	1.98
Independent Retail Pharmacies	891	345	95.5%	79.4%	113.2%	6.4%	38.7%	62.4%	107.8%	1.97

1) Individual store means are weighted by Medicaid drug utilization, however, distributions of acquisition cost by store are not weighted

2) Individual drug means are not weighted, however, the mean of the distribution of acquisition cost by drug resulting from a weighted calculation is presented.

Acquisition Cost Summary by Pharmacy
Top 25 Manufacturer Discount Comparisons for Single Source Drug Products
Kentucky Medicaid
(Limited to Observations from External Invoices)

Labeler Code	Manufacturer Name	Current Survey (2003)		Previous Survey (2001)		Change Average Acquisition Cost
		Average Acquisition Cost	Number of Observations	Average Acquisition Cost	Number of Observations	
00074	ABBOTT LABORATORIES	78.9%	729	79.2%	920	-0.3%
00186	ASTRAZENECA LP	79.7%	1,973	82.7%	2,057	-3.0%
00310	ASTRAZENECA LP	79.0%	444	81.5%	704	-2.5%
00088	AVENTIS PHARMACEUTICALS	76.2%	768	82.6%	838	-6.4%
00075	AVENTIS PHARMACEUTICALS	74.4%	348	77.9%	594	-3.4%
00597	BOEHRINGER INGELHEIM PHARMACEUTICALS	78.9%	917	81.9%	977	-3.0%
00087	BRISTOL-MYERS SQUIBB COMPANY	79.6%	1,036	81.5%	2,224	-1.9%
63653	BRISTOL-MYERS SQUIBB/SANOFI PARTNERSHIP	79.2%	285	83.1%	164	-3.9%
00002	ELI LILLY AND COMPANY	81.9%	838	81.9%	1,195	0.0%
00456	FOREST LABORATORIES, INC.	78.2%	465	80.2%	648	-1.9%
00173	GLAXOSMITHKLINE	79.0%	2,191	81.7%	3,056	-2.8%
50458	JANSSEN PHARMACEUTICA PRODUCTS, L.P.	78.8%	503	82.6%	543	-3.8%
00045	MCNEIL PHARMACEUTICAL	78.0%	535	82.7%	672	-4.7%
00006	MERCK & CO., INC.	79.1%	2,265	80.1%	3,346	-1.0%
00078	NOVARTIS PHARMACEUTICALS CORPORATION	79.2%	1,114	81.3%	1,064	-2.1%
00052	ORGANON INC.	79.4%	330	81.5%	367	-2.1%
00069	PFIZER INC	78.5%	1,854	78.7%	2,045	-0.2%
00049	PFIZER-ROERIG	78.6%	876	79.2%	1,076	-0.6%
00025	PHARMACIA & UPJOHN	79.9%	681	82.5%	1,207	-2.6%
00085	SCHERING CORPORATION	79.7%	800	82.1%	2,273	-2.4%
00029	SMITHKLINE BEECHAM	79.3%	2,310	80.3%	3,059	-1.0%
64764	TAKEDA PHARMACEUTICALS AMERICA	79.0%	317	82.6%	284	-3.6%
00300	TAP PHARMACEUTICALS INC	78.4%	406	80.3%	665	-2.0%
00071	WARNER-LAMBERT COMPANY - PARKE-DAVIS	78.0%	1,996	79.4%	2,310	-1.3%
00008	WYETH LABORATORIES	79.0%	563	79.4%	722	-0.5%
Average Top 25 Single Source Drug Manufacturers		78.8%		81.1%		-2.3%
Percent of Manufacturers with average discount between 82 and 84%		0%		32%		
Percent of Manufacturers with average discount between 78 and 82%		100%		68%		

Pharmacy Profit Analysis
Percent Margin on Prescription Dispensing Activities
 Excludes Specialty and Hospital-Based Pharmacies
 Kentucky Medicaid

Characteristic	Measures of Central Tendency					Other Statistics				
	General Statistics					Percentile Ranges				
	n: Number of Pharmacies	Mean	Standard Deviation	Standard Error of the Mean	Weighted by Total Rx Volume	Median	95% Confidence Interval for Mean (based on Student t)		t Value (with n-1 degrees of freedom)	
							Lower Bound	Upper Bound	20%	80%
Bad Debt and Advertising Expenses Not Allocated to Dispensing Cost										
All Pharmacies Analyzed	354	7.6%	6.2%	0.3%	9.8%	7.0%	7.0%	8.3%	3.6%	11.4%
Affiliation:										
Chain	186	6.7%	5.2%	0.4%	9.3%	6.4%	6.0%	7.5%	3.9%	9.9%
Independent	168	8.6%	7.1%	0.5%	10.7%	8.0%	7.5%	9.7%	3.3%	13.7%
Location:										
Urban	132	6.8%	5.9%	0.5%	9.6%	7.2%	5.8%	7.8%	3.1%	10.3%
Rural	207	8.1%	6.2%	0.4%	8.8%	6.9%	7.2%	8.9%	3.9%	12.5%
Out of State	15	9.2%	9.1%	2.3%	16.9%	8.7%	4.2%	14.3%	2.0%	11.7%
Annual Total Rx Volume:										
0 to 49,999	127	5.3%	7.4%	0.7%	5.5%	5.0%	4.0%	6.6%	1.8%	9.5%
50,000 to 99,999	150	8.1%	4.8%	0.4%	8.3%	7.2%	7.4%	8.9%	4.3%	11.2%
100,000 and Higher	77	10.5%	5.0%	0.6%	12.5%	9.9%	9.4%	11.6%	6.6%	13.0%
Bad Debt and Advertising Expenses Allocated to Dispensing Cost										
All Pharmacies Analyzed	354	7.0%	6.2%	0.3%	9.1%	6.4%	6.3%	7.6%	3.0%	10.7%
Affiliation:										
Chain	186	6.1%	5.1%	0.4%	8.6%	5.9%	5.3%	6.8%	3.2%	9.1%
Independent	168	7.9%	7.2%	0.6%	10.0%	7.2%	6.8%	9.0%	2.9%	12.5%
Location:										
Urban	132	6.1%	5.9%	0.5%	8.9%	6.4%	5.1%	7.1%	2.6%	9.3%
Rural	207	7.4%	6.2%	0.4%	8.2%	6.4%	6.6%	8.3%	3.5%	11.4%
Out of State	15	8.6%	8.8%	2.3%	16.0%	8.6%	3.7%	13.5%	1.9%	11.2%
Annual Total Rx Volume:										
0 to 49,999	127	4.6%	7.5%	0.7%	4.8%	4.3%	3.3%	5.9%	1.3%	8.6%
50,000 to 99,999	150	7.5%	4.9%	0.4%	7.7%	6.4%	6.7%	8.3%	3.8%	10.5%
100,000 and Higher	77	9.9%	4.9%	0.6%	11.8%	9.0%	8.8%	11.0%	6.2%	12.5%

Pharmacy Profit Analysis
Net Margin per Prescription
 Excludes Specialty and Hospital-Based Pharmacies
 Kentucky Medicaid

Measures of Central Tendency													Other Statistics				
Characteristic	General Statistics						95% Confidence Interval for Mean (based on Student t)			Percentile Ranges		Skewness					
	n: Number of Pharmacies	Mean	Standard Deviation	Standard Error of the Mean	Weighted by Total Rx Volume	Median	Lower Bound	Upper Bound	t Value (with n-1 degrees of freedom)	20%	80%	Skewness	Error of Skewness				
Bad Debt and Advertising Expenses Not Allocated to Dispensing Cost																	
All Pharmacies Analyzed	354	3.11	2.49	0.13	3.95	2.90	2.85	3.37	1.97	1.47	4.72	0.17	0.13				
Affiliation:																	
Chain	186	2.78	1.94	0.14	3.73	2.68	2.50	3.06	1.97	1.64	4.36	(0.50)	0.18				
Independent	168	3.48	2.94	0.23	4.29	3.30	3.03	3.92	1.97	1.39	5.56	0.17	0.19				
Location:																	
Urban	132	2.87	2.51	0.22	3.91	2.92	2.44	3.30	1.98	1.40	4.39	(0.13)	0.21				
Rural	207	3.22	2.39	0.17	3.56	2.78	2.89	3.55	1.97	1.59	4.89	0.48	0.17				
Out of State	15	3.73	3.45	0.89	6.46	3.37	1.82	5.64	2.14	1.05	7.04	(0.48)	0.63				
Annual Total Rx Volume:																	
0 to 49,999	127	2.14	2.97	0.26	2.28	2.03	1.62	2.67	1.98	0.74	4.08	0.40	0.22				
50,000 to 99,999	150	3.34	1.98	0.16	3.42	3.00	3.02	3.66	1.98	1.78	4.58	1.05	0.20				
100,000 and Higher	77	4.25	1.85	0.21	4.90	4.28	3.83	4.67	1.99	2.64	5.15	0.75	0.28				
Bad Debt and Advertising Expenses Allocated to Dispensing Cost																	
All Pharmacies Analyzed	354	2.84	2.50	0.13	3.68	2.59	2.58	3.10	1.97	1.27	4.29	0.25	0.13				
Affiliation:																	
Chain	186	2.50	1.93	0.14	3.47	2.37	2.22	2.78	1.97	1.35	3.98	(0.53)	0.18				
Independent	168	3.21	2.96	0.23	4.01	2.83	2.76	3.66	1.97	1.19	5.20	0.25	0.19				
Location:																	
Urban	132	2.58	2.51	0.22	3.64	2.63	2.14	3.01	1.98	1.09	4.12	(0.01)	0.21				
Rural	207	2.96	2.41	0.17	3.31	2.57	2.63	3.29	1.97	1.41	4.49	0.53	0.17				
Out of State	15	3.47	3.36	0.87	6.12	3.30	1.61	5.33	2.14	1.01	6.71	(0.50)	0.63				
Annual Total Rx Volume:																	
0 to 49,999	127	1.85	2.97	0.26	1.97	1.75	1.33	2.37	1.98	0.50	3.38	0.52	0.22				
50,000 to 99,999	150	3.07	2.01	0.16	3.14	2.63	2.75	3.40	1.98	1.60	4.24	1.04	0.20				
100,000 and Higher	77	4.00	1.83	0.21	4.65	3.95	3.59	4.42	1.99	2.52	4.93	0.86	0.28				